DOCUMENT RESUME

ED 238 952 UD 023 078

TITLE	Evaluation of the Title I Program: ELementary Reading and Math Program; Middle School Reading Program; NIE Demonstration Project; Language Arts Program. Final Evaluation Report for Title I, 1977-1978.
INSTITUTION	Heuristics, Inc., Dedham, Mass.
SPONS AGENCY	Boston Public Schools, Mass.
PUB DATE	78
NOTE	217p.; For related document, see UD 023 077.
PUB TYPE	Reports - Evaluative/Feasibility (142)
EDRS PRICE	MF01/PC09 Plus Postage.
DESCRIPTORS	*Achievement Gains; *Compensatory Education; Demonstration Programs; Educationally Disadvantaged; Elementary Schools; Elementary Secondary Education; *Language Arts; Middle Schools; *Program Effectiveness; Program Evaluation; *Remedial Mathematics; Remedial Programs; *Remedial Reading
IDENTIFIERS	Massachusetts (Boston)

ABSTRACT

Four components of Boston's Title I program (1977-78) are evaluated in this report: Elementary Reading and Math Program, Middle School Reading Program, the National Institute of Education (NIE) Demonstration Project (reading), and the Language Arts Program. Problems common to all four programs were limited inservice training and limited communication with parents and parental involvement. In the Elementary Reading and Math and Middle School Reading programs, training, supervision, and accountability of Community Relations Department staff were issues of concern. In general, administration and supervision of the programs were satisfactory, as were morale, materials, student selection, use of teacher aides, and operation of reading labs. In the Elementary Reading and Math Program, gains in reading were mixed, with students in Grades 2,5, and 6 exceeding the projected criteria, students in Grade 3 not meeting them, and students in Grade 4 maintaining their standing. Gains in math were large at all grade levels, far exceeding projected criteria. Large gains were also made by students in the Middle School Reading Program, while gains in the NIE Project were mixed. In the Language Arts Program, large gains were made by participants at all grade levels. Appended to this report are data on testing and on pre-post test scores for all four components. (CMG)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED238952

BOSTON PUBLIC SCHOOLS

Boston, Massachusetts

EVALUATION OF THE TITLE I PROGRAM

- **ELEMENTARY READING AND MATH PROGRAM**
- **MIDDLE SCHOOL READING PROGRAM**
- **NIE DEMONSTRATION PROJECT**
- **LANGUAGE ARTS PROGRAM**

1977 — 1978

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

ED023078

MARGARET M. CALLAHAN

Chapter I Program
26 Court St., 3rd fl.
Boston, MA 02108

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Margaret M Callahan
Boston Public Schools
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

HEURISTICS INC.

Boston Public Schools

FINAL EVALUATION REPORT FOR TITLE I

- THE ELEMENTARY READING AND MATH PROGRAM
- THE MIDDLE SCHOOL READING PROGRAM
- THE NIE DEMONSTRATION PROJECT
- THE LANGUAGE ARTS PROGRAM

1977-1978

Prepared by

Heuristics, Inc.
Wellesley, Massachusetts

Submitted to the

Department of Management Information Services

UD 023 078

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY	i
INTRODUCTION	v
EVALUATION DESIGN	vi
ELEMENTARY READING AND MATHEMATICS PROGRAM	1
Introduction	1
Terminal Instructional Objectives	4
Findings	4
Discussion	5
Product (Reading and Math)	5
Process (Program Operations)	33
In-Service Objectives - Teachers	44
Findings	44
Discussion	44
In-Service Objectives - Reading and Math Aides	48
Findings	48
Discussion	48
Parent Involvement Objectives	51
Findings(a-c)	51
Discussion	51
Findings (d-f)	55
Discussion	56
Related Issues	57
Summary of Findings	58
Recommendations	60
MIDDLE SCHOOL READING PROGRAM	62
Introduction	62
Terminal Instructional Objectives	64
Findings	64
Discussion	67
Product (Reading)	67
Process (Program Operations)	76
In-Service Objectives - Teachers	88
Findings	88
Discussion	88
In-Service Objectives - Aides	91
Findings	91
Discussion	91
Parent Involvement Objectives	93
Findings (a-c)	93
Discussion	93
Findings (d-f)	97
Discussion	97
Related Issues	99
Summary of Findings	100
Recommendations	102

Page

NIE DEMONSTRATION PROJECT 104

Introduction 104
Terminal Instructional Objective 106
Findings. 106
Discussion 107
Product (Reading) 107
Process (Program Operations) 114
In-Service Objectives. 120
Findings 120
Discussion 120
Parent Involvement Objectives. 122
Findings. 122
Discussion 122
Related Issues 124
Summary of Findings. 125
Recommendations 127

LANGUAGE ARTS PROGRAM 128

Introduction 128
Terminal Instructional Objective 129
Findings 129
Discussion 129
Product (Language) 129
Process (Program Operations) 137
Related Issues 142
Summary of Findings 143
Recommendations 144

APPENDIX A - Testing Program 145

APPENDIX B - Statistical and Subtest Analysis - Elementary Reading and Math 147

APPENDIX C - Statistical and Subtest Analysis - Middle School 171

APPENDIX D - Statistical and Subtest Analysis - NIE 179

APPENDIX E - Statistical and Subtest Analysis - Language Arts . . . 187

APPENDIX F - Tabulation of Achievement of Performance Objectives in Reading and Math . . . . . (under separate cover)

Title I Program	Major Successes	Major Problems	Recommendations
Elementary Reading and Math	Students in grades 2, 5, and 6 exceeded the specified criterion of .7 GE months per month of instruction in reading. Grade 3 students did not meet this criterion, but did gain in percentile rank. Grade 4 students maintained their present standing. Gains in math were large at all grade levels, far exceeding projected criteria. This long established program was well administered with few operational problems. Eighty-four percent of the local PAC's were formed. Few cases of overlap with other supplementary programs were found.	Private school students consistently made lower gains in reading. Orientation and in-service training were limited due to restriction on in-service time imposed by central school administration. Training, supervision, and accountability of Community Relations Department staff are issues of concern. Involvement of parent volunteers on committees was limited. Increased communication between Title I teachers and classroom teachers, parents, and other Title I teachers is required.	Twenty-two recommendations were offered for program improvement. The principal recommendations dealt with increased training and communication; refinement of student selection procedures; and refined operation of the Community Relations Department.

Title I Program	Major Successes	Major Problems	Recommendations
Middle School Reading	Large gains were made by students in grades 6-8, exceeding projected grade equivalent criteria and resulting in advancement in percentile rank. The in-service training held in the Spring was well received by teachers and aides. In general, the program was implemented successfully, particularly in the instructional area where most operational problems were of a minor nature. Only two cases of overlap with other supplementary programs were reported.	Gains in the Jackson-Mann program were limited. Testing with the Metropolitan is not considered a valid evaluation procedure. The program at the T. Roosevelt was discontinued in April due to personnel problems. Orientation and in-service training was limited due to restrictions on in-service time imposed by central school administration. Local PAC's were formed in only 15 of 26 schools. Parent involvement generally was limited. Principals were dissatisfied with the efforts of Community Relations staff. Training, supervision, and accountability of Community Relations Department staff were issues of concern. Initial scheduling problems and communication problems hampered rapport between Title I and classroom teachers.	Twenty-five recommendations for program improvement were offered. The most important centered on improving communication and coordination between Title I teachers and classroom teachers; increased parental involvement efforts; pilot-testing other remedial models for the middle school level; refining student selection; and upgrading facilities.

Title I Program	Major Successes	Major Problems	Recommendations
NIE Demonstration Project	Students in grades 2 and 4 exceeded the projected rate of gain in grade equivalent score. Further, students in grades 2, 3, and 4 advanced in percentile rank. Active PAC's were formed at each school due to efforts of NIE community relations staff. A close knit staff worked well together to implement the program successfully and monitor its progress closely. No overlap was found between the NIE project and other supplementary programs.	No in-service training was provided due to restrictions imposed by central school administration. Parental communication and interest was limited. Student attendance averaged 76%. Only two NIE schools were selected for visits by the parent visiting committee and only one NIE parent was on the committee.	Since this was the final year of the NIE Demonstration Project, specific recommendations were not made for the NIE Project, per se, rather the reader is referred to the recommendations for the Elementary Program into which two of the NIE schools will be absorbed.

Title I Program	Major Successes	Major Problems	Recommendations
anguage Arts	Grade equivalent gains exceeded the norm rate, for the most part doubling the gain expected in the interval between pretest and posttest. Students at all grade levels advanced in percentile rank. Despite its late start in December, the program was successfully implemented and well received by school staff. Title I services were extended to new schools which had not received Title I benefits in the past. Overlap with other supplementary programs was reported in only two cases.	A Program Coordinator proposed was not hired. Supervision was limited, and some teachers required additional help in establishing programs. The student-teacher ratio of 10:1 was judged to be inappropriate by the teachers. Facilities were poor in only two cases. There were initial problems with materials and supplies, which were resolved, though many teachers were not satisfied with the quality of materials. After orientation, no additional training was provided due to restrictions imposed by central school administration. Parental interest and communication was low.	Nine recommendations for program improvement were offered. They were: to hire a program coordinator; to provide help to new teachers in establishing programs; to remove the program from the schools where facilities were poor; to reduce the student-teacher ratio to 5:1; to increase individualized planning and instruction; to review the program's materials; to provide in-service training; to involve the Community Relations Department in the program; and to revise the selection checklist.

INTRODUCTION

The Title I Project in the Boston Public Schools represents a substantial effort (approximately 8 million dollars) to serve the needs of educationally disadvantaged students from pre-school age to high school. Approximately fourteen thousand students are served in seven programs--Reading-Elementary School Level, Mathematics-Elementary School Level, Early Childhood, English as a Second Language, Reading-Middle School Level, Boston High School-Work Study. These programs were funded under the Title I Part A entitlement. For the second year, Boston also served as one of the sites for the Title I national demonstration project being conducted by the National Institute of Education (NIE). In addition, a special incentive grant funded under Part E supported the Language Arts program at elementary and middle school levels. Related services include In-service Training and Parental Involvement.

This report presents the summative evaluation of four of the instructional programs and related services within each program in the total Title I project. These are: the Reading Program-Elementary School Level and Mathematics Program-Elementary School Level, which are commonly referred to as the Elementary Enrichment Program; the Reading Program-Middle School Level; the NIE Demonstration Project; and the Language Arts Program. Two interim formative reports were prepared for these programs in February of this school year. Elements of the interim reports applicable to the summative evaluation are also included in this final report.

EVALUATION DESIGN

Evaluation of the Elementary Reading and Math, Middle School Reading, and Language Arts programs and the NIE Demonstration Project with their accompanying Support Services for teachers and parents proceeded under a single evaluation design, which included a broad range and variety of data sources and utilized several data-gathering techniques. The comparatively complex evaluation process required for these components included both formative and summative evaluation of program process and product. The evaluation focused on such input and process variables as: administration and supervision, instructional environment and processes, materials and supplies, morale, objectives, parent involvement, in-service, and the like. Product data were also obtained--the students' standardized test results and achievement of performance objectives in reading and mathematics in the elementary and middle school grades. Techniques used to collect evaluation data from such data sources as administrators, teachers, parents, and students included observations, interviews, questionnaires, rating scales, and standardized tests. Appendix A presents a description of the testing program.

ELEMENTARY READING AND MATHEMATICS PROGRAM

INTRODUCTION

Table E-1 presents an overview of the operation of the Elementary Reading and Mathematics Program (Elementary Enrichment Program). The Reading program operated in 95 elementary schools including 63 public, 29 parochial, and three private schools. The Mathematics program operated in 30 of the 95 schools--24 public and 6 parochial. Approximately 9,000 students were served by both programs--7,000 in Reading and 1,200 in Math. The instructional staff was composed of 194.5 reading teachers and 31.5 math teachers. Each teacher was assisted by an instructional aide.

There were two basic modes of instruction: (1) The major instructional approach was an individualized system in which a teacher and aide served a total of 42 students in six 45-minute periods, five days per week, (2) The New Century Reading Lab which operated in three schools and served a total of 100 or 180 students per day depending upon the size of the Lab in five 50-minute periods.

In all modes, the focus was upon meeting the needs of the individual student. The New Century Lab is designed to individualize the instructional process completely with each child working at his/her own level and pace. To accomplish individualization in the non-Lab mode, a complete instructional system has

Table E-1

Overview of Elementary Enrichment Program*

Schools		Teachers	Aides
		Reading	
Public	63	146	146
Parochial	29	45.5	45.5
Private	3	3	3
		Mathematics	
Public	24	26	26
Parochial	6	5.5	5.5

Totals

Schools			Teachers	Aides
Public	63	Reading	194.5	194.5
Parochial	29	Mathematics	30.5	30.5
Private	3	Total	225	225
Total	95			

* Date as of December, 1977 provided by the Title I office.

been developed. The system includes informal and standardized diagnostic tests to identify strengths and weaknesses, and systematic planning which encourages individualization of instruction.

Overall program administration and supervision was the responsibility of a central administrative component; but more particularly an Acting Associate

Director-Elementary Enrichment and five Assistant Directors-Enrichment served the administrative requirements of the Elementary Enrichment Program, and six Assistant Directors-Staff Development were responsible for instructional supervision and staff training. Other facets of the Elementary Enrichment Program included parental involvement and in-service training for teachers and aides.

TERMINAL INSTRUCTIONAL OBJECTIVES

Objectives

Reading	Students who participate in the Title I Reading Program will demonstrate a reduction of reading deficiency as measured by pre-post standardized reading tests on the Metropolitan Achievement Tests. The growth anticipated as the terminal measure is a grade equivalent increase of at least .7 months per month of instruction.
Mathematics	Students who participate in the Title I Mathematics Program will demonstrate a reduction of reading deficiency as measured by pre-post standardized mathematics tests on the California Achievement Tests. The growth anticipated as the terminal measure is a grade equivalent increase of at least .7 months per month of instruction.

Findings

Reading. Based on pre- and posttesting with the Metropolitan Achievement Test, students in grades 2, 5, and 6 exceeded the specified criterion of .7 G. E. months per month of instruction with gains of .9, 1.0, and 1.0 respectively in Total Reading score. Students in grade 4, on the average, equaled the .7 criterion projected. Students in grade 3 did not meet the standard, gaining only .4 months per month. Some differences, though not consistent, appeared among program groups with Parochial and NCEC Lab students gaining more. Private schools scored lowest. In grade 1 where only posttests were available, students ended the year one month below grade level. (See Table E-2.)

Examination of gains in national percentile rank revealed slightly different results. In this case, students in grades 2, 3, and 6 gained more than projected and advanced in Total Reading percentile standing. In grades 4 and 5, students gained enough to maintain their previous standing in reading achievement. (See Table E-3.)

Mathematics. Based on the test data obtained from the California Achievement Tests, students at all grade levels far exceeded the criterion stated in the objective for the Total Math scores. Average monthly gain rates ranged from 1.3 to 1.6 G.E. months per month of instruction, doubling the projected rate. However, grade one students, for whom only posttest data were available, ended the year three months below grade level. (See Table E-4.)

Discussion

Product

Reading. Test data on reading outcomes were obtained by administration of the Metropolitan Achievement Test as described in the evaluation design (Appendix A). Results of the statistical analyses used to compare pre- to posttest changes are synopsized in Tables 1B to 3B of Appendix B. Standard score gains were statistically significant at all grades on all reading subtests except for: (1) private school students in grade 3 (Word Knowledge) and grade 5 (Reading); (2) grade 5 NCEC Lab students (Word Knowledge); and (3) grade 6 students in public and private school programs (Word Knowledge, Reading, Total Reading).

Table E-2

Summary of Mean Grade Equivalent Scores in Total Reading
Across Five Elementary Program Groups

Group	Pretest G. E. Mean	Posttest G. E. Mean	Mean G. E. Gain	Monthly Gain Rate
		Grade 1		
Public Schools	-	1.6	-	-
Parochial Schools	-	1.8	-	-
Private Schools	-	1.6	-	-
NCEC Schools	-	2.3	-	-
All Participants	-	1.7	-	-
		Grade 2		
Public Schools	1.8	2.4	0.6	.9
Parochial Schools	1.9	2.6	0.7	1.0
Private Schools	1.6	2.1	0.5	.7
NCEC Schools	2.1	2.6	0.5	.7
All Participants	1.8	2.4	0.6	.9
		Grade 3		
Public Schools	2.4	2.7	0.3	.4
Parochial Schools	2.6	2.9	0.3	.4
Private Schools	2.5	2.7	0.2	.3
NCEC Schools	2.6	3.2	0.6	.9
All Participants	2.5	2.8	0.3	.4
		Grade 4		
Public Schools	2.8	3.3	0.5	.7
Parochial Schools	3.2	3.8	0.6	.9
Private Schools	2.5	3.0	0.5	.7
NCEC Schools	3.1	3.7	0.6	.9
All Participants	2.9	3.4	0.5	.7

Table E-2 (Cont.)

Group	Pretest G. E. Mean	Posttest G. E. Mean	Mean G. E. Gain	Monthly Gain Rate
		Grade 5		
Public Schools	3.5	4.2	0.7	1.0
Parochial Schools	3.9	4.6	0.7	1.0
Private Schools	3.3	3.8	0.5	.7
NCEC Schools	4.1	4.5	0.4	.6
All Participants	3.6	4.3	0.7	1.0
		Grade 6		
Public Schools	3.9	4.3	0.4	.6
Parochial Schools	4.8	5.5	0.7	1.0
Private Schools	4.3	4.6	0.3	.4
All Participants	4.6	5.3	0.7	1.0

Gains in total reading reported in grade equivalent scores are summarized in Table E-2 and graphically portrayed in Figures E-1 to E-6. (Grade equivalent scores for each group and grade on each reading subtest are presented in Tables 4B and 5B in Appendix B).

Wide variation in achievement was found among the groups. In grades 5 and 6 all participants achieved, on the average, above the projected rate of gain of .7 months in G.E. score for each month of instruction, gaining at a rate of 1.0 months per month. Students in grade 2 attained a monthly gain rate of .9 on the average, while the rate of gain for students in grade 4 was .7 G.E. months per month of instruction. The average gain for grade 3 students, as in the past, was lower than the other grades - only .4 G.E. months per month of Title I instruction. (However, it should be noted that the comparatively small gains demonstrated by grade 3 students may be due, in part, to the shift from Primary II to the Elementary level of the Metropolitan used as a posttest measure.)

Parochial school students tended to achieve both higher pretest and posttest scores than public school students, and achieved at a faster rate in three of the five grades (2, 4, 6). Private school students generally tended to score lower than both public and parochial school students, and made smaller gains from pre- to posttesting.

The pretest and posttest scores of the NCEC students tended to be similar to parochial school students, in general. The monthly gain rate of NCEC

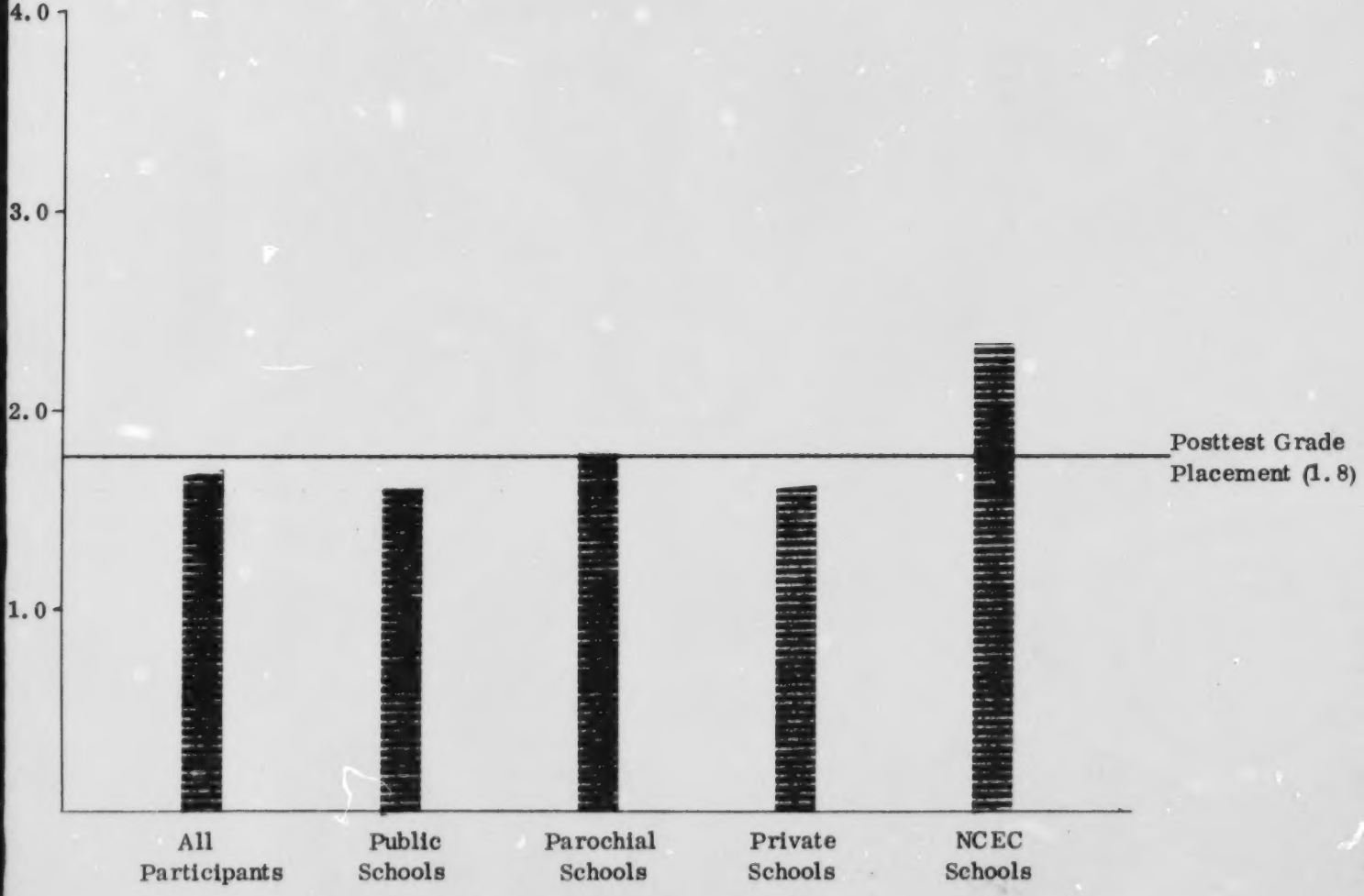

Figure E-1: Posttest Grade Equivalent Scores in Reading of Five Program Groups in Grade 1

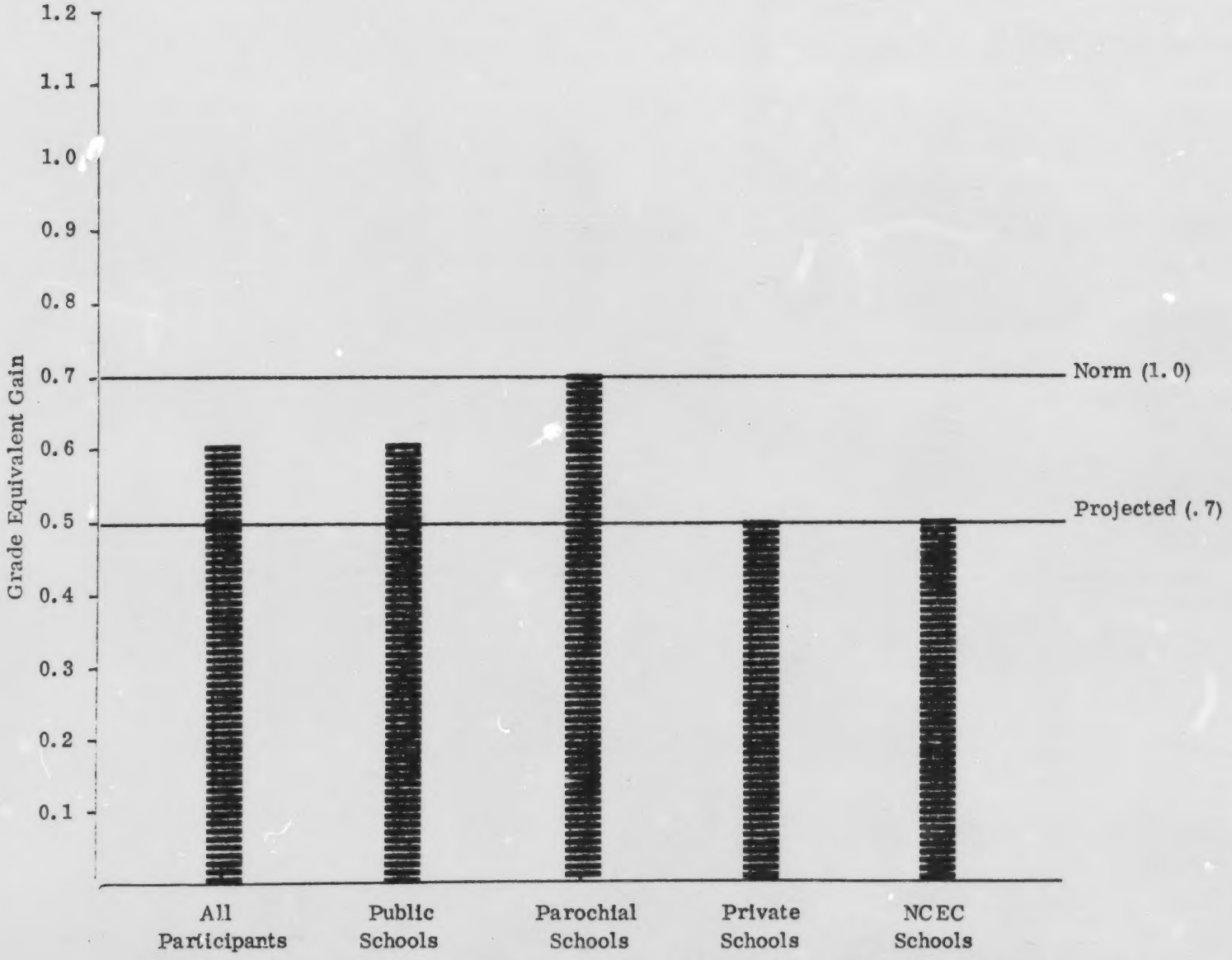

Figure E-2: Gains in Total Reading of Five Elementary Program Groups in Grade 2

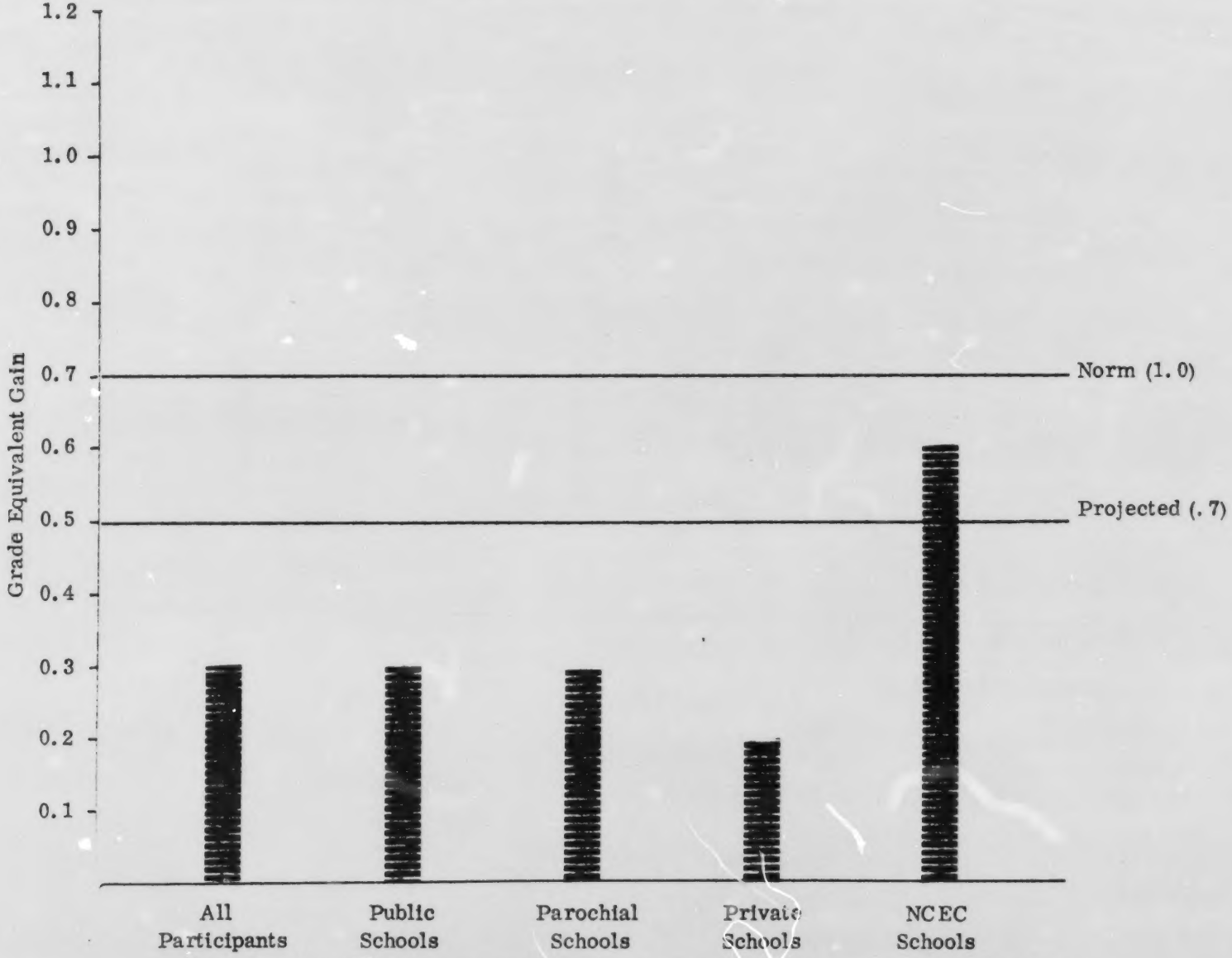

Figure E-3: Gains in Total Reading of Five Elementary Program Groups in Grade 3

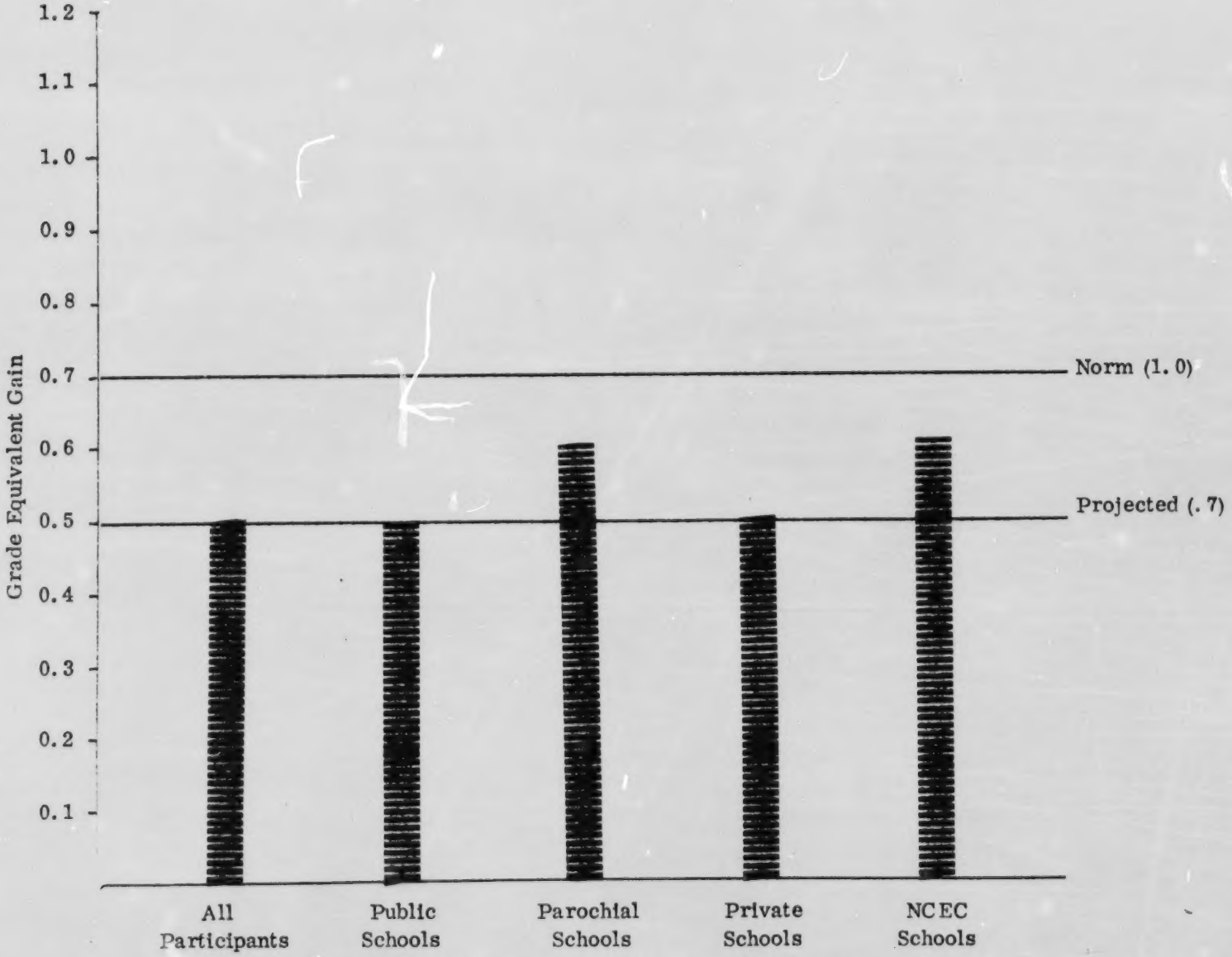

Figure E-4: Gains in Total Reading of Five Elementary Program Groups in Grade 4

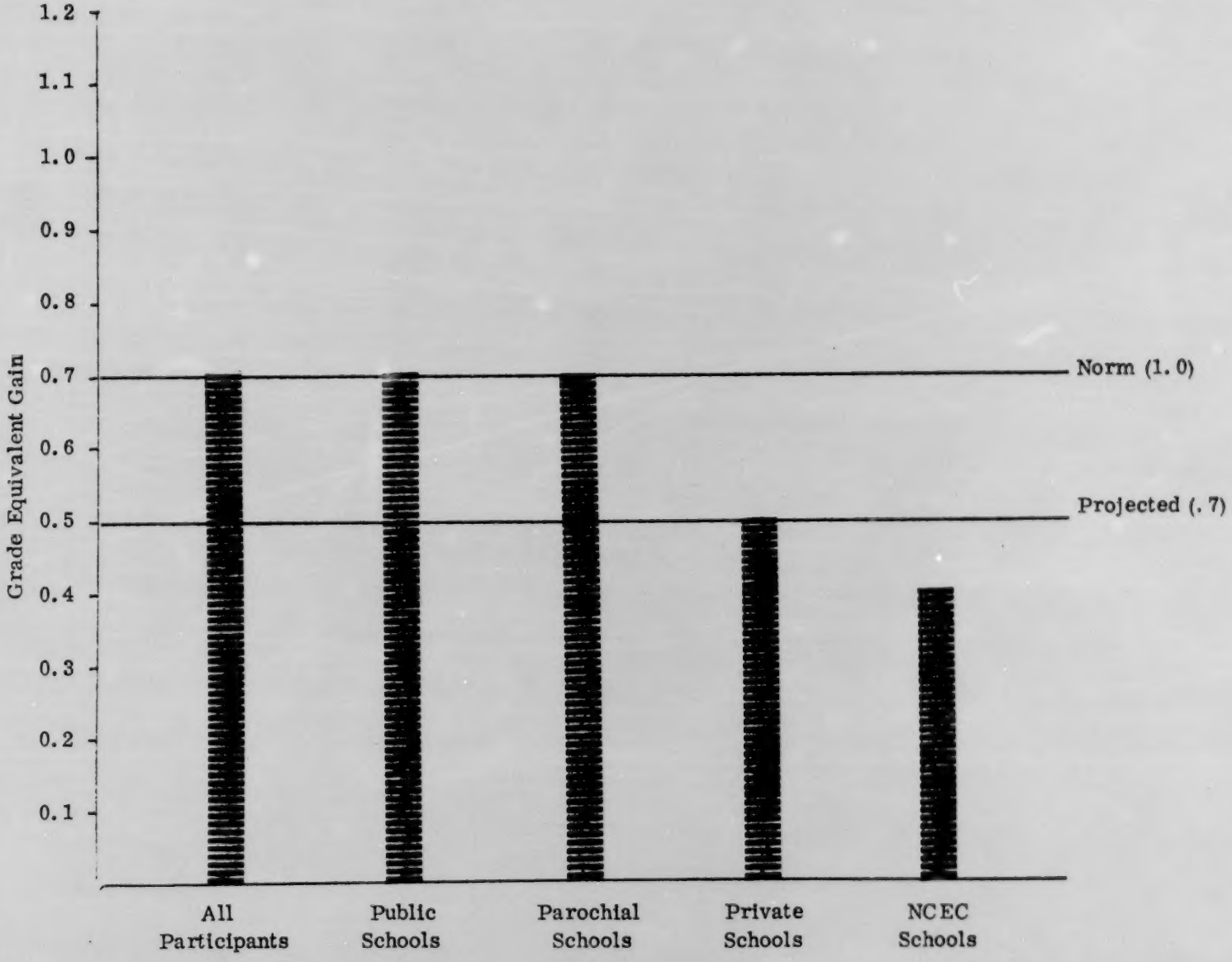

Figure E-5: Gains in Total Reading of Five Elementary Program Groups in Grade 5

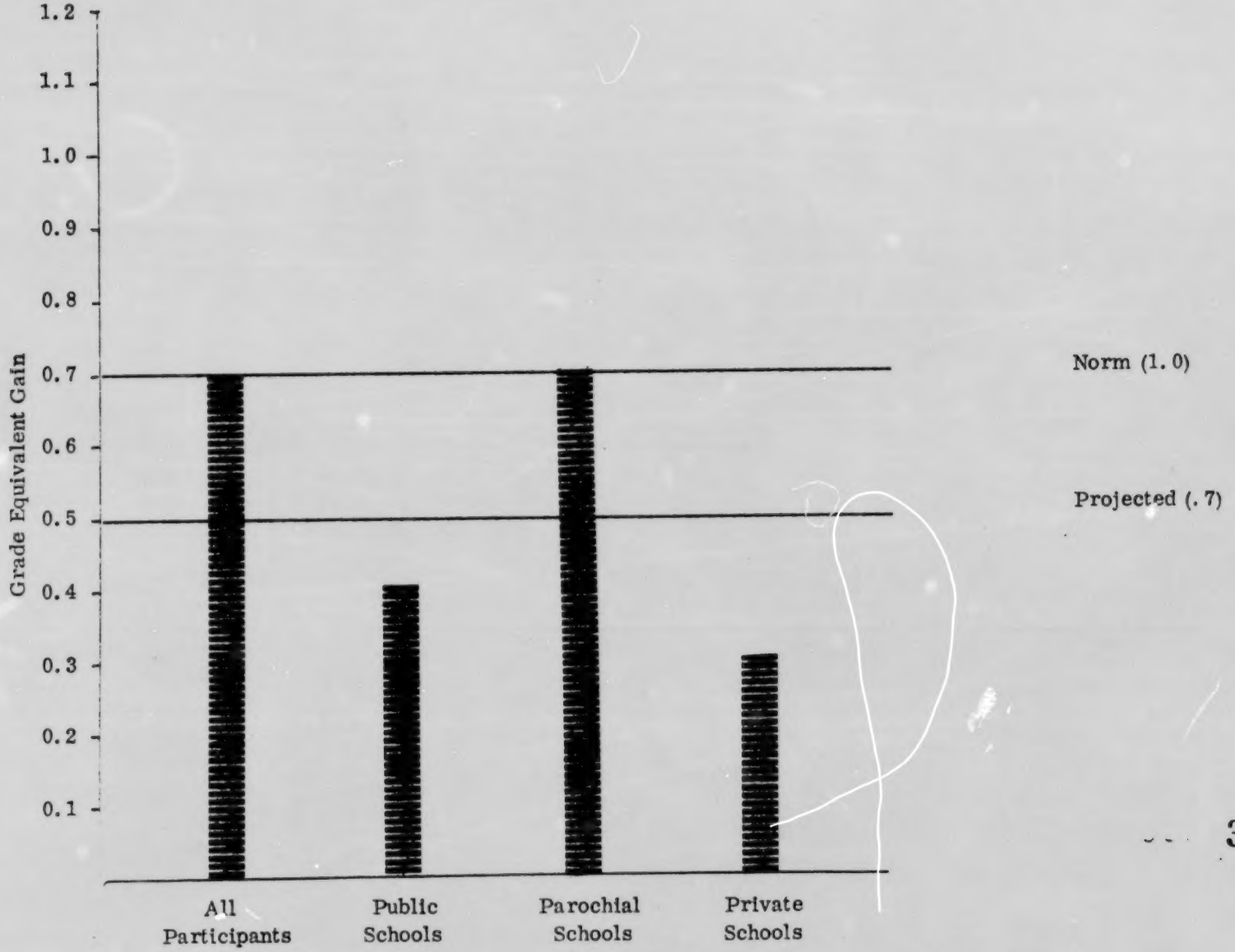

Figure E-6: Gains in Total Reading of Four Elementary Program Groups in Grade 6

students exceeded those of all students in grade 3, showing a monthly gain rate of .9. However, in grades 2 and 5, NCEC students gained, on the average at a slower rate than the total group. In grade 4, NCEC students (along with parochial school students) gained more than the other groups.

In grade 1 only posttest scores were available for Title I students. On the average students tested approximately one month below grade level at the time of testing. Public and private school students scored lowest (1.6) among the different school programs, while NCEC program students finished above grade level (2.3).

Another perspective for interpreting the degree of achievement of the students, relative to other children at the same school level, is shown in Table E-3. Table E-3 expresses mean pre- and posttest scores in Total Reading as national percentile rank and accompanying NCE scores. (Tables showing percentile rank and NCE scores on each subtest for each grade and group are also provided in Tables 6B and 7B in Appendix B). An increase in percentile standing from pre- to posttest would indicate that students were achieving more than they had in the past, moving up in their respective norm group standing. As the table shows, the children entered the program, for the most part, well below the average (50th percentile). Pretest means ranged from the 14th to the 46th percentile, with most below the 30th percentile. While most posttest means still remained below the median nationwide, in most cases students did show a greater rate of achievement in reading.

In grades 2, 3, and 6 participants of all programs combined demonstrated a gain in percentile standing. In grades 4 and 5 gains in percentile rank for students in the different programs were inconsistent across each grade level. Public school students gained in percentile rank in grades 2 and 3, while parochial school students improved their percentile standing in grades 2, 4, 5, and 6. Students receiving Title I instruction in private schools advanced in percentile standing only in grade 2. NCEC program students gained in grades 2, 3, and 4.

These data complement the grade equivalent data presented in Table E-2, by showing changes in relation to a nationwide norm group. The data demonstrates that while the elementary students improved in reading, the improvement was not a function of any particular program group at every grade level. Gains in percentile rank in total reading for all program participants in grades 2-6 are graphed in Figure E-7.

Another view of the impact is gained from examination of the NCE scores. NCE's are Normal Curve Equivalents, a "new" score with a mean of 50 and a standard deviation of 21.06. The scale was developed and disseminated by the U.S. Office of Education. The scale closely matches the percentile distribution, hence has the qualities of interpretation inherent in percentile scores. However, the scale is also an equal interval scale and can be used in arithmetic calculations, while percentiles cannot. The NCE scale permits percentile scores from any norm referenced test to be transformed to an NCE score. These scores can then

Table E-3

Summary of Mean Percentile and NCE Scores in Total Reading
Across Five Elementary Program Groups

Group	Percentile			NCE		
	Pre	Post	Gain	Pre	Post	Gain
Grade 1						
Public Schools	-	32	-	-	40.1	-
Parochial Schools	-	42	-	-	45.8	-
Private Schools	-	30	-	-	39.0	-
NCEC Schools	-	86	-	-	72.8	-
All Participants	-	36	-	-	42.5	-
Grade 2						
Public Schools	24	34	10	35.1	41.3	6.2
Parochial Schools	34	48	14	41.3	48.9	7.6
Private Schools	14	16	2	27.2	29.1	2.1
NCEC Schools	46	48	2	47.9	48.9	1.0
All Participants	26	34	8	36.5	41.3	5.2
Grade 3						
Public Schools	22	24	2	33.7	35.1	2.6
Parochial Schools	32	30	-2	40.1	39.0	-1.1
Private Schools	24	24	0	35.1	35.1	0.0
NCEC Schools	32	40	8	40.1	44.7	4.6
All Participants	24	28	4	35.1	37.7	2.6

Table E-3 (Cont.)

Group	Percentile			NCE		
	Pre	Post	Gain	Pre	Post	Gain
Grade 4						
Public Schools	20	20	0	32.3	32.3	0
Parochial Schools	28	32	4	37.7	40.1	3.6
Private Schools	14	14	0	27.2	27.2	0
NCEC Schools	26	30	4	36.5	39.0	3.5
All Participants	22	22	0	33.7	33.7	0
Grade 5						
Public Schools	18	18	0	30.7	30.7	0
Parochial Schools	26	28	2	36.5	37.7	1.2
Private Schools	14	14	0	27.2	27.2	0
NCEC Schools	28	26	-2	37.7	36.5	-1.2
All Participants	20	20	0	32.3	32.3	0
Grade 6						
Public Schools	14	12	-2	27.2	25.3	-2.1
Parochial Schools	26	28	2	36.5	37.7	1.2
Private Schools	18	16	-2	30.7	29.1	-1.6
All Participants	24	26	2	35.1	36.5	1.4

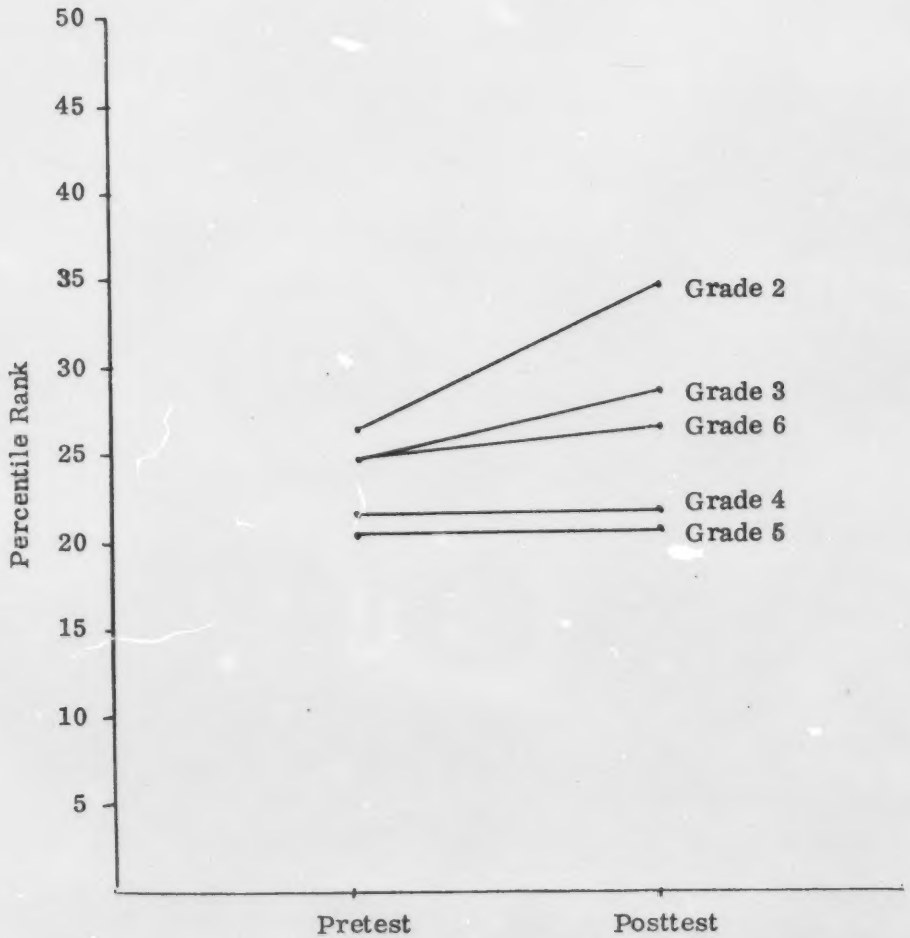

Figure E-7: Gains in Percentile Rank in Total Reading for Grades 2-6 - All Participants

be aggregated across the state or country to determine the overall impact of Title I. According to OE materials, "Whenever the evaluation shows an NCE gain greater than zero, it means that the Title I pupils profitted from participating in the project. In general the larger the NCE gain, the more effective the project."

The NCE gains correspond closely to the percentile changes discussed above. Examination of NCE gains shown in Table E-3 reveals that the Title I project has had a positive effect upon its participants in grades 2, 3, and 6, with students gaining more than projected. In grades 4 and 5, NCE gains of zero indicate that the students gained enough to maintain their previous standing in reading achievement.

(Achievement of specific reading performance objectives as rated by teachers was tabulated for a sample of 1,008 students. These results are presented in Appendix F under separate cover.)

Mathematics. The Mathematics subtests of the California Achievement Tests were also administered in October and May to students receiving math instruction. The results of the statistical analyses used to compare pretest to posttest changes for grades 2-6 are summarized in Tables 8B to 10B of Appendix B. (Statistical analyses were performed by the test publisher.) Statistically significant gains were found for all grade levels in all groups - public, parochial, and all participants combined.

Table E-4 presents a summary of the Total Math grade equivalent scores associated with the mean Achievement Development Scale Scores (standard scores) used in the statistical analyses. The results are shown for grades 1-5 in the public schools, grades 1-6 in the parochial schools and for grades 1-5 for all groups combined. Only posttests were administered to grade 1 students and the corresponding grade equivalent scores for these students are also reported in Table E-4. These data are graphically portrayed in Figures E-8 to E-13. (Grade equivalent scores on each subtest for each group and grade are provided in Tables 11B and 12B of Appendix B.)

Large gains in grade equivalents were made by all groups at all grade levels in Total Math. The gains far exceeded those projected for the seven months of instruction between pre- and posttesting. Average monthly gain rates ranged from 1.3 to 2.0 months in G.E. score for each month of instruction. At each grade level, parochial school students tended to have higher pretest and posttest scores; and in grades 2 and 4 they gained at a faster rate than public school students.

Table E-4

Summary of Mean Grade Equivalent Scores in Mathematics on the California Achievement Tests - Total Math

Group	Pretest G. E. Mean	Posttest G. E. Mean	Mean G. E. Gain	Monthly Gain Rate
		Grade 1		
Public Schools	-	1.4	-	-
Parochial Schools	-	1.7	-	-
All Participants	-	1.5	-	-
		Grade 2		
Public Schools	1.6	2.5	0.9	1.3
Parochial Schools	1.7	2.7	1.0	1.4
All Participants	1.6	2.6	1.0	1.4
		Grade 3		
Public Schools	2.3	3.4	1.1	1.6
Parochial Schools	2.7	3.8	1.1	1.6
All Participants	2.4	3.5	1.1	1.6
		Grade 4		
Public Schools	3.1	4.1	1.0	1.4
Parochial Schools	3.4	4.8	1.4	2.0
All Participants	3.2	4.2	1.0	1.4
		Grade 5		
Public Schools	3.7	4.7	1.0	1.4
Parochial Schools	4.1	5.0	0.9	1.3
All Participants	3.8	4.8	1.0	1.5
		Grade 6		
Parochial Schools	5.0	5.9	0.9	1.3

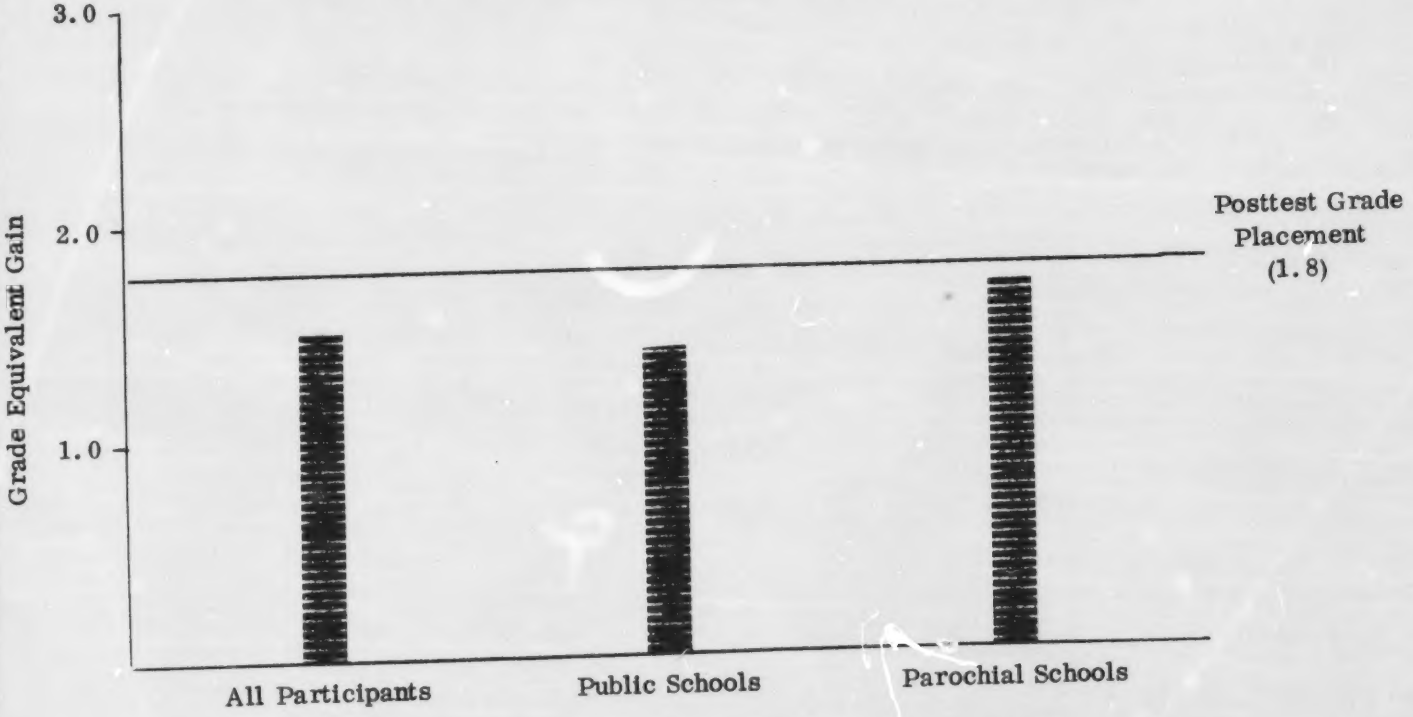

Figure E-8: Posttest Grade Equivalent Scores in Total Mathematics of Three Elementary Program Groups in Grade 1

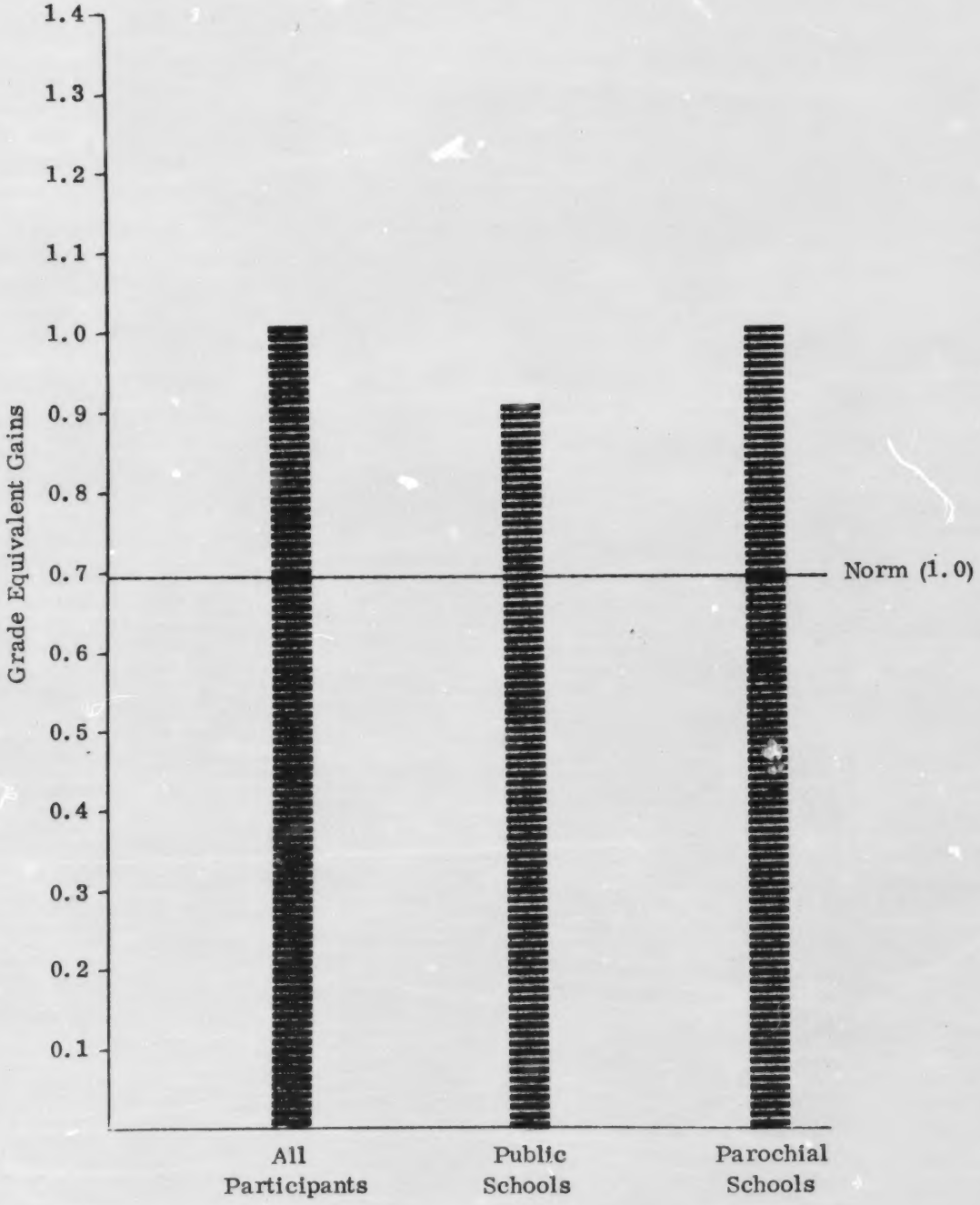

Figure E-9: Gains in Total Mathematics of Three Elementary Program Groups in Grade 2

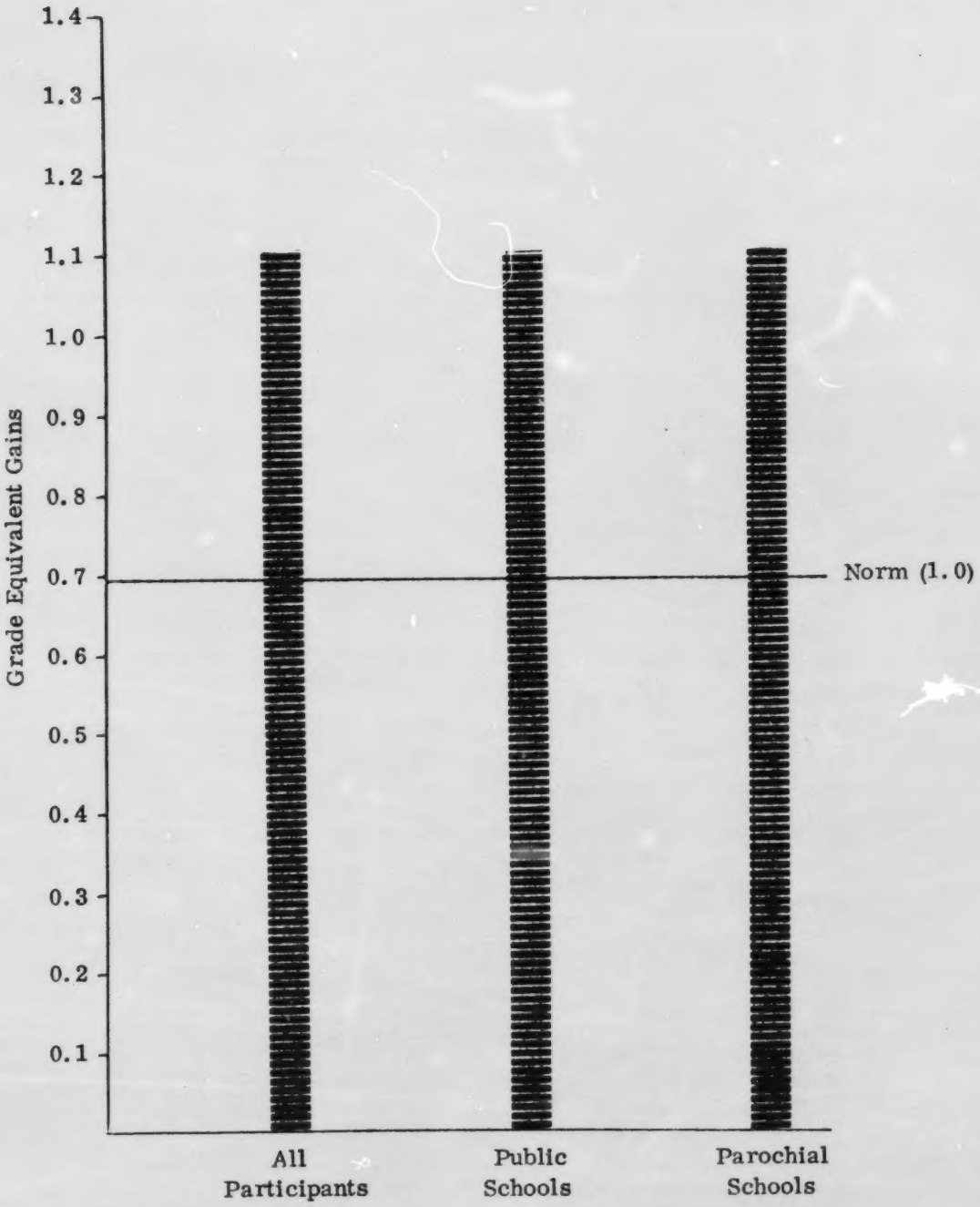

Figure E-10: Gains in Total Mathematics of Three Elementary Program Groups in Grade 3

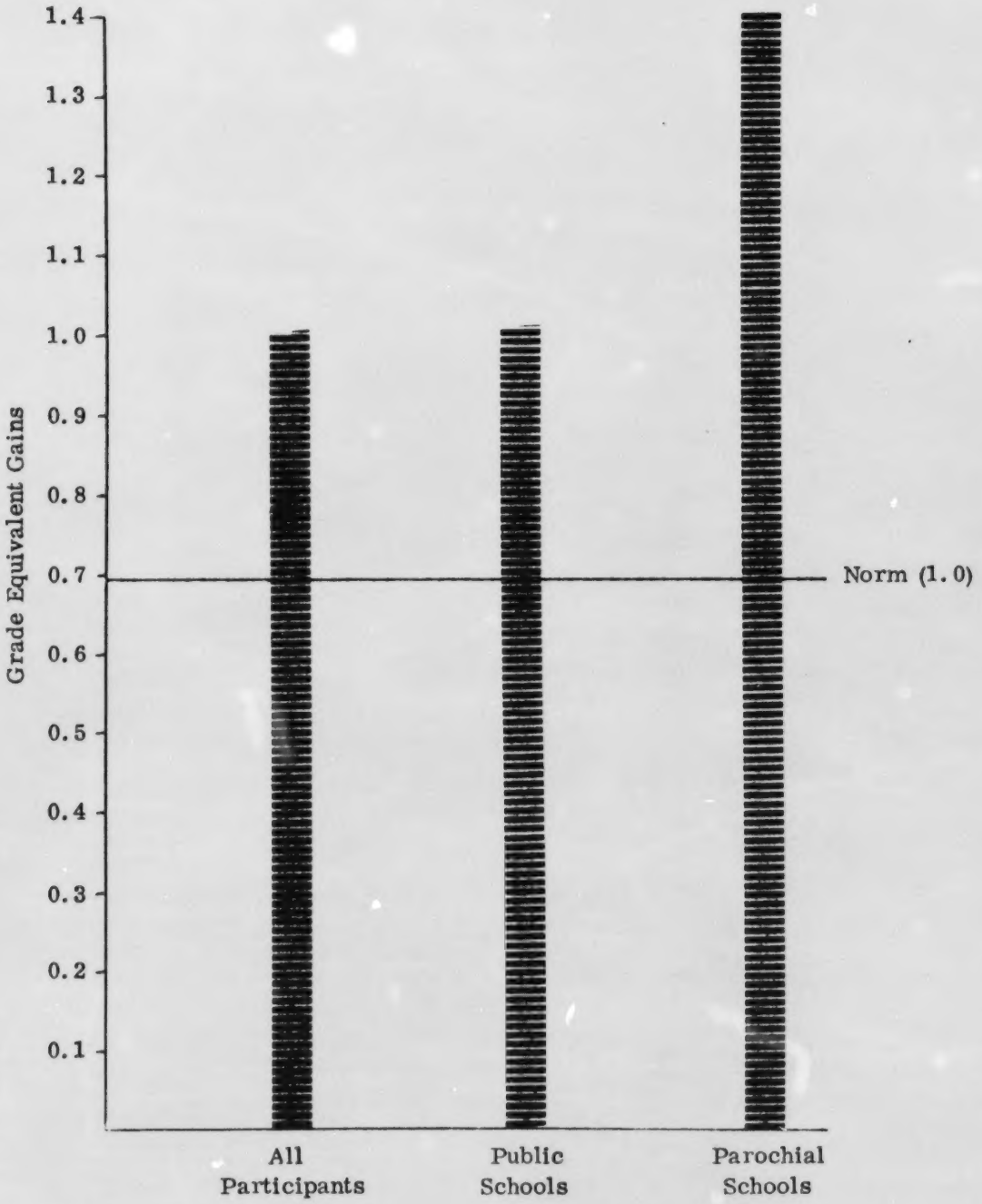

Figure E-11: Gains in Total Mathematics of Three Elementary Program Groups in Grade 4

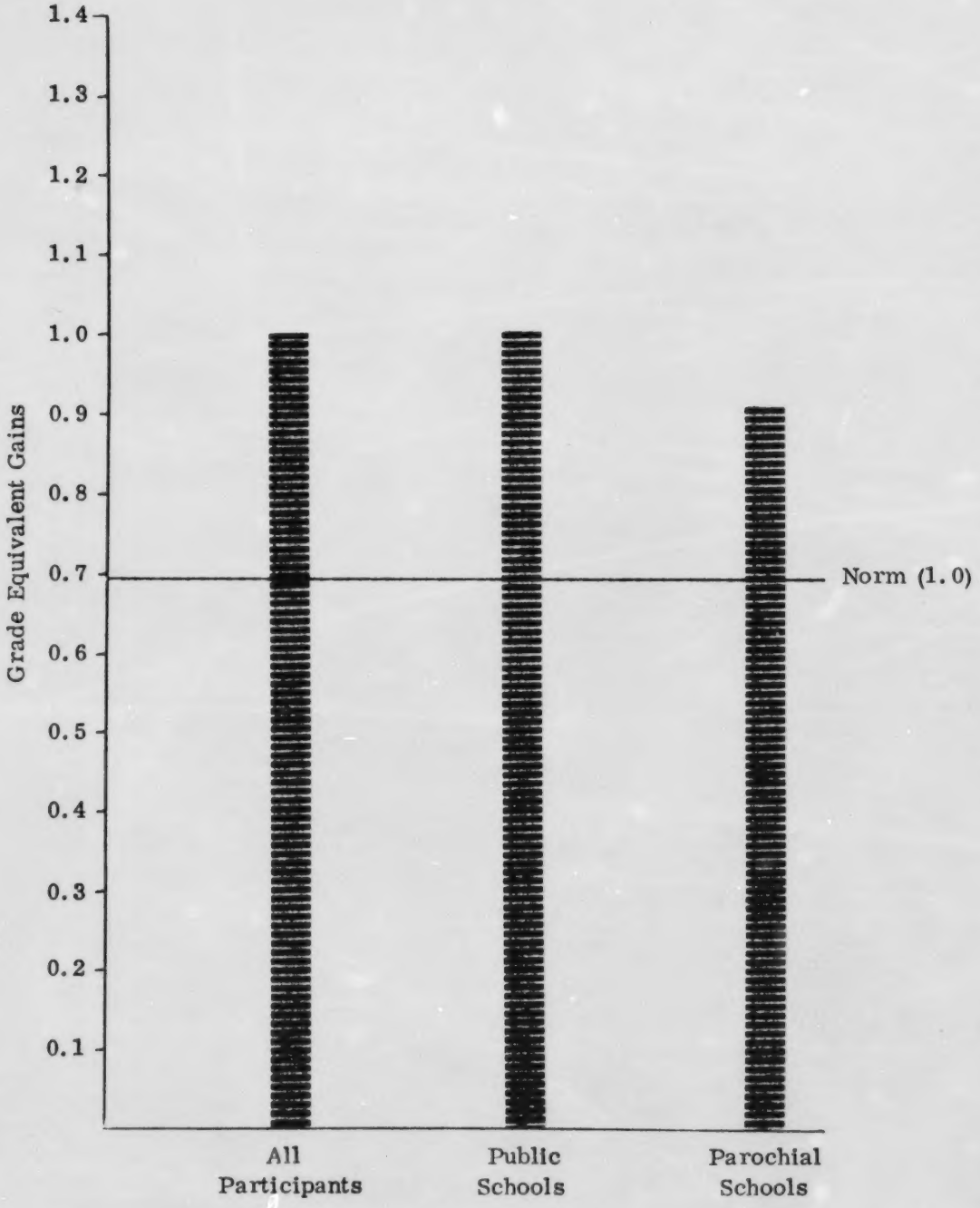

Figure E-12: Gains in Total Mathematics of Three Elementary Program Groups in Grade 5

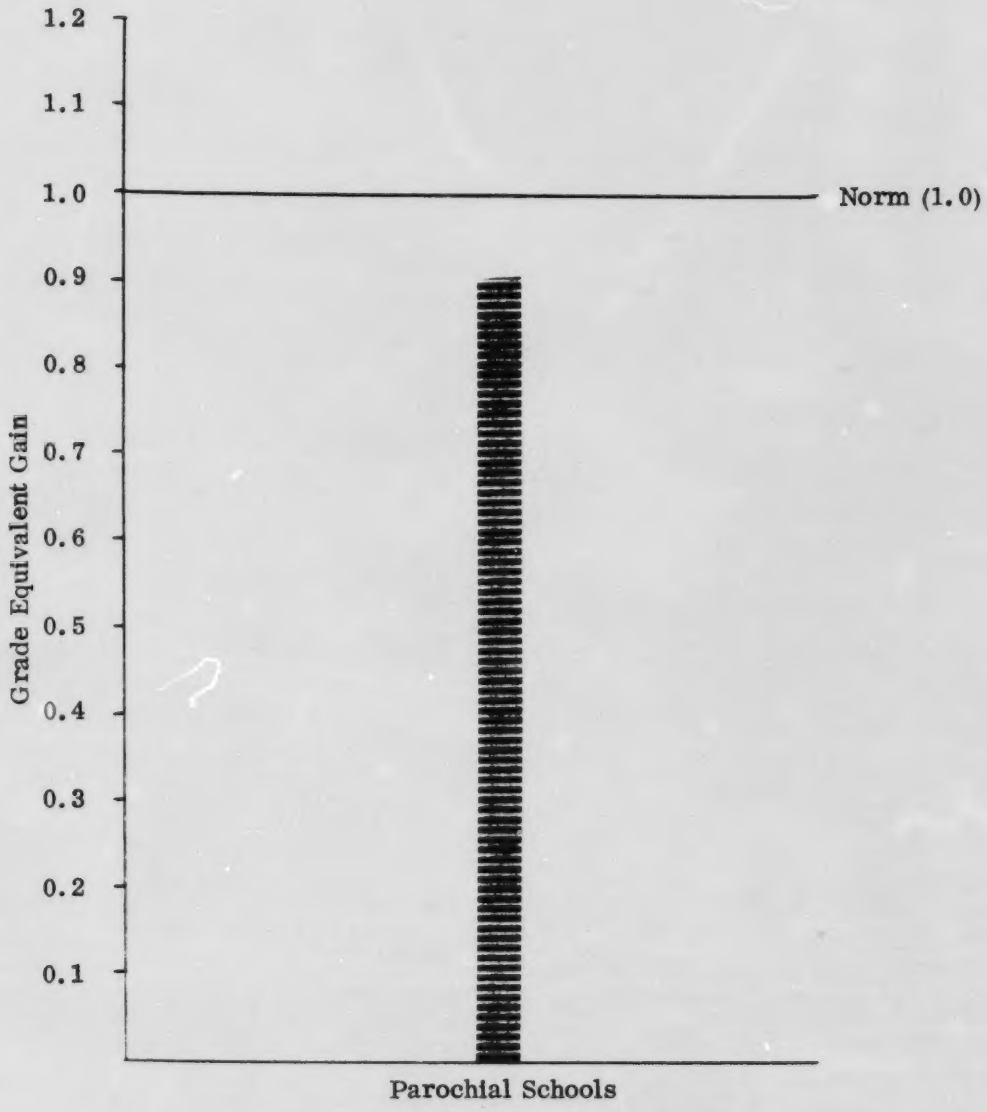

Figure E-13: Gains in Total Mathematics of Three Elementary Parochial School Students in Grade 6

In grade 1, public school students ended the year four months below grade level at the time of testing, while parochial school students finished the year one month below grade level. Overall, all participants in grade 1 were three months below grade level at the time of the posttest.

Student scores in Total Math were also transformed into percentile and NCE scores, which are shown in Table E-5. (Corresponding percentile rank and NCE scores for each subtest are provided in Tables 13B and 14B in Appendix B.) As Table E-5 indicates, student achievement in math exceeded their previous rate of growth. Mean percentile gains were large and ranged from 8 to 24 percentile points. Both public and parochial school students advanced in percentile standing at each grade level. (The gains in percentile rank for all participants in grades 2-6 are graphically displayed in Figure E-14.) The gains in NCE scores reflected the substantial improvement the students demonstrated in their percentile rank in Total Math. NCE score gains ranged from 4.8 to 13.3 NCE units, corroborating the positive effects of the Title I mathematics instruction.

(Achievement of specific math performance objectives as rated by teachers was tabulated for a sample of 1,588 students. These results are presented in Appendix F under separate cover.)

Table E-5

Summary of Percentile and NCE Gains in Mathematics
on the California Achievement Tests - Total Math

Group	Percentile			NCE		
	Pre	Post	Gain	Pre	Post	Gain
Grade 1						
Public Schools	-	39	-	-	-	-
Parochial Schools	-	50	-	-	-	-
All Participants	-	43	-	-	-	-
Grade 2						
Public Schools	29	40	11	38.3	44.7	6.4
Parochial Schools	33	52	19	40.7	51.1	10.4
All Participants	29	46	17	38.3	47.9	9.6
Grade 3						
Public Schools	20	38	18	32.3	43.6	11.3
Parochial Schools	34	54	20	41.3	52.1	10.8
All Participants	23	43	20	34.4	46.3	11.9

Table E-5 (Cont.)

Group	Percentile			NCE		
	Pre	Post	Gain	Pre	Post	Gain
Grade 4						
Public Schools	19	34	15	31.5	41.3	9.8
Parochial Schools	29	53	24	38.3	51.6	13.3
All Participants	23	37	14	34.4	43.0	8.6
Grade 5						
Public Schools	17	25	8	29.9	35.8	5.9
Parochial Schools	24	32	8	35.1	40.1	5.0
All Participants	18	27	9	30.7	37.1	6.4
Grade 6						
Public Schools	-	-	-	-	-	-
Parochial Schools	26	34	8	36.5	41.3	4.8
All Participants	-	-	-	-	-	-

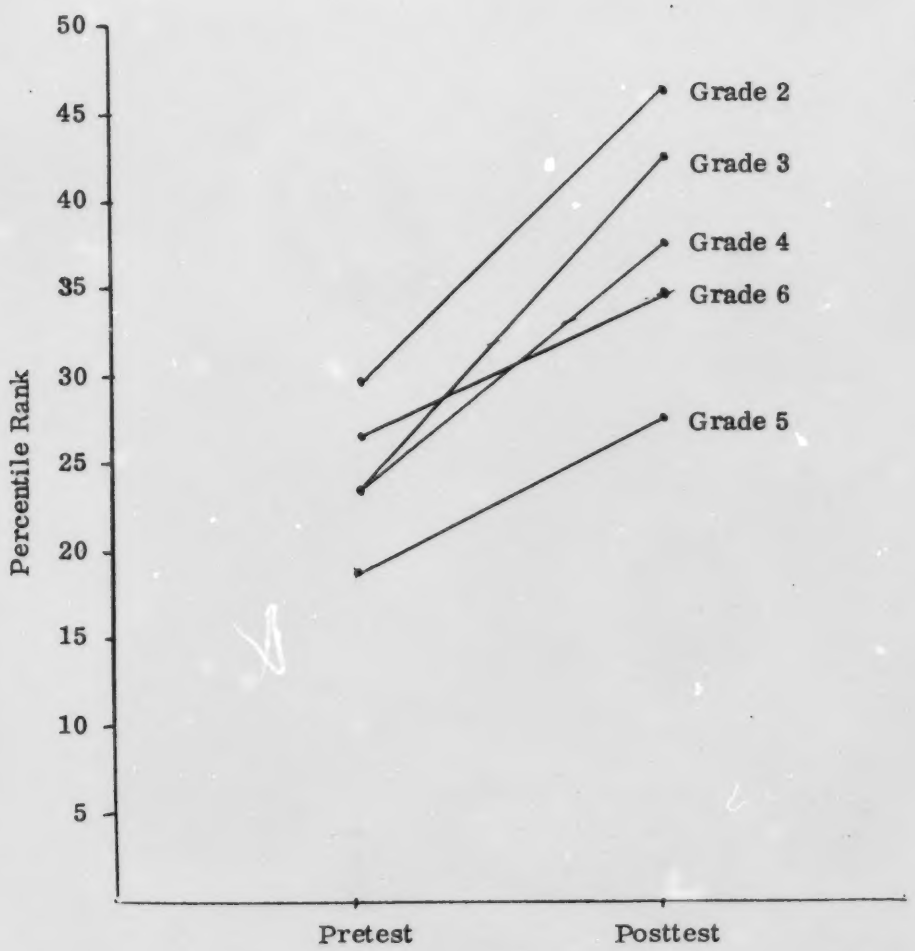

Figure E-14: Gains in Percentile Rank in Total Mathematics for Grades 2-6 - All Participants

Process

Discussed below is a summary of the evaluation of those inputs and operational processes related to the proper functioning of the Title I Program and the attainment of its reading and math product objectives. Included are: administration and supervision, communication, facilities, objectives, New Century Reading Laboratory, parental communication, student evaluation, teacher aides, time, and value perceived by others. This discussion is based on site visits to Title I classrooms, and personal interviews and/or questionnaires administered to administrators, supervisors, Title I teachers, principals, classroom teachers, and parents.

Administration and Supervision. Generally, the organization of the Title I Program was rated highly by all involved. According to Title I teachers, guidelines were clearly disseminated, and administrators responded to their needs. However, about one-fourth of the new reading teachers indicated a need for more information and help from administration.

Teachers reported general satisfaction with the cooperation of their principals. Principals also were satisfied with the information received from and cooperation with Title I administration.

Concerning supervision, the Assistant Directors, Staff Development were able to give the support expected by the Title I teachers; principals were also satisfied. Some Title I teachers (20%) did indicate, however, that they could

have used more specific help in dealing with needs which developed during the implementation of the program. Over one-half of the new reading teachers reported such need.

It is important to note that when asked how the Assistant Directors of Administration or Staff Development could provide more efficient or better service to them the Title I teachers did not have any specific suggestions.

Communication. Although the pullout system was reported to have not impeded rapport between classroom teachers and Title I teachers, a large minority of the Title I staff (40%) were still concerned about communication with the classroom teachers. Discussion of student progress and lack of personal responses to the Title I progress report by classroom teachers were the specific areas of concern. These expectations for better communication between the Title I staff and classroom teachers were a special concern for the new Title I teachers. However, the principal and classroom teachers generally thought the communication was adequate.

Over half of the Title I teachers (56%) also reported dissatisfaction with their communication with other Title I teachers in the city. Reading teachers felt the most need to exchange ideas, materials, and methods with their colleagues. (The limited in-service opportunities available this year are discussed later in the report.)

Facilities

Most teachers were satisfied that the facilities were adequate for their instruction. In the majority of teaching situations the environment was as follows: a relatively quiet and spacious classroom which provided accommodations for more than one group having moveable seating and adequate space for material storage. The lighting and room temperature including humidity level were also appropriate. (Specific facilities problems, which were few in number, were identified in the Interim Report.)

Instruction. In most cases, Title I teachers successfully identified individual learning needs for each child in their classes. For the most part, individual plans, either the Individual Prescriptive Work Plan or an alternative form were used regularly. However, observation revealed a small proportion of teachers made group plans for themselves and individual plans became merely page numbers from books or workbooks to be used.

In observing classes an average of six students were present with most instruction in small groups. However, in 27% of the observations there was whole group instruction. There was no significant indication of independent learning.

Most teachers in both math and reading classes were observed teaching a specific skill and utilizing workbooks or worksheets as reinforcement. Silent and oral reading were observed for over half the time in many reading classes.

Interaction between teachers and students through questioning was also high. Aide activity consisted generally in assisting students with workbooks or worksheets and questioning students. Such other activities as games, audio-visual equipment and testing were noted in a minority of classes observed.

The pull-out model of instruction for Title I students was supported by principals (86%), classroom teachers (72%) and Title I teachers (77%). When given the option to have instruction in the classroom, there was little support. Many did feel that the decision is best based on the student's individual needs. This position was held by about one-fourth of classroom and Title I teachers and only 8% of the principals.

Materials. Materials were available in sufficient quantity and were appropriate to student needs according to most of the Title I staff. However, about one-fourth of the new reading teachers were not satisfied. Also most teachers were able to utilize the variety of materials available to provide appropriate instruction. Some experienced math teachers (15%) indicated difficulty in utilizing all available materials because not all were needed for the level of instruction.

Many teachers were not able to share the good materials prepared by other Title I teachers, since time was not available for the reading teachers. Because of the math workshop, this concern was less for math teachers, but many, especially the new teachers (72%) were still dissatisfied.

The most useful reading materials as reported by teachers were: Ginn Reading Series, Cambridge Work-A-Texts and Barnell-Loft. The most useful math materials were: McCormack-Mathers Series and the Silver-Burdett Math Kits.

A materials committee of Title I teachers and administrators was established and met at the end of the school year to examine new materials and make recommendations to administration. An inventory and materials evaluation was also completed by all Title I teachers at the end of the year.

Morale. Morale was generally high among the Title I staff. The teachers were confident about their qualifications and abilities, and felt they accomplished something worthwhile. This year the morale of math teachers was high (96%) far surpassing the 69% response last year. Nevertheless, some math teachers (23%), while generally happy working in the program, did not feel that the math program was given appropriate priority in the Title I Program. The new math teachers especially felt this was (42%), and noted that the children in most need of math were in the Title I reading class; therefore, students with less need were taken into their classes. In the general view of Title I teachers and principals, the Title I staff were considered an integral part of the school faculty.

Objectives. With the exception of one-fourth of the new Title I reading teachers, Title I teachers understood the program objectives. Classroom teachers and principals also reported that the Title I objectives were clear to

them. Although responses to the evaluation questionnaires were poor, most PAC members, both city and district, also indicated they understood the objectives of Title I. These objectives did meet the needs of students according to the Title I staff, classroom teachers and principals.

To direct instruction and record the progress of students, the Title I Program uses two skill references - the Title I Skill Profile Chart and specific performance objectives. On questionnaires, the overwhelming majority (over 90%) of the Title I teachers said they used the performance objectives to evaluate and to teach, and a significantly high percentage (85%) also reported using the Skill Profile Chart. During observations and personal interviews, results concerning use of these tools were somewhat different. During site visits, as requested by Title I administrators, the evaluators attempted to determine whether either or both of these references served as the basis of the curriculum process and which the teachers preferred to use. About half of the teachers used both tools. Forty percent of the teachers apparently used the performance objectives in their regular planning and used the Skill Profile Chart as a periodic reference. Only 8% used the Skill Profile Chart regularly in planning and referred to the performance objectives periodically. Twenty percent of the teachers used both only as a periodic reference. Some teachers used only one of these tools. For example, about 12% of the teachers used only the performance objectives actively in planning, and another 10% only as a periodic reference. On the other hand, 4% of the teachers used only the Skill Profile Chart in planning, and 8% only as a periodic reference.

When asked whether they preferred the performance objectives or the Skill Profile Chart, nearly half of the teachers were about evenly divided between the two. About one-fifth of the teachers responded positively to both tools, while 15% wanted neither. Less than 10% wanted one reference source, but did not care which was chosen.

Parental Communication. Title I teachers were not satisfied with their communication with parents. While parents were not actively interested in the program according to teachers, interviews with teachers did indicate that when they take the initiative (e.g., phone calls) parents generally do attempt to support the teacher. Teachers for the most part were satisfied with the progress reports sent to parents, and most parents who responded indicated satisfaction with this kind of information.

New Century Reading Laboratory. Administrative support for Lab teachers was considered satisfactory, though according to Lab teachers, the Assistant Directors, Staff Development were not generally involved in supervision in the Lab program. Building principals were also cooperative and helpful. However, Lab teachers, like their non-Lab counterparts, generally were not satisfied with the communication they had with classroom teachers, especially in the discussion of student progress. Desiring better communication among themselves, Lab teachers wanted opportunities for exchange of ideas, materials, and methods with other Title I Lab teachers across the city. Teachers did find the Lab teaching experience professionally rewarding. Because of appropriate student/teacher

ratio, length of instructional time, and diagnostic testing, Lab instruction was perceived to be effective, and met the needs of the majority of the children being served. An exception was for first grade students for whom this type of instruction was not considered appropriate. Lab teachers also noted that about ten percent of their students could profit more from the traditional Title I model of instruction, included among these students were those with severe deficits.

Equipment and material inventory maintenance and general school supplies were satisfactory.

Although dissatisfied with the lack of parental interest and their limited personal contact with parents (approximately 10-20), Lab teachers were satisfied with the format of reporting children's progress to parents.

Morale was high for most of the Lab aides. All but one of the aides felt positive towards themselves, their training and their relationships with the teachers.

Student Evaluation. The majority of Title I teachers agreed the process for identifying Title I children selected those who were most in need of help. However, both new reading teachers (33%) and math teachers (25%) questioned this. Most classroom teachers and principals believed that the Title I Program served children in most need.

In order to identify student strengths and weaknesses, most Title I teachers had the necessary diagnostic tests and devices available to them.

Teacher Aides. Good rapport was reported between Title I teachers and aides. Generally, their morale was high. They felt the children, with whom they spent most of their time were glad they were there. Only one aide did not enjoy working in the Title I Program and did not feel competent to handle the job.

Despite the longevity of most, the aides, especially those in reading, would have liked more accurate information concerning their jobs at the beginning of the program. Some new reading aides were notably concerned (four of six responding). These aides also felt that the teachers should receive such information at the beginning of the program. Nevertheless, the aides, in general, reported they understood their role and had, for the most part, specific assignments prepared by the Title I teachers on a daily basis. It is important to note, however, that assignments for aides were, for the most part, not observed during site visits.

Time. As in the past, most Title I teachers thought there was too much paperwork; though, the new math teachers appeared to be more tolerant. The mid-year reports, i.e., performance objective summary sheets and attendance were the chief sources of their complaint. Many also felt there was a shortage of time for individual planning. Time for planning and paperwork ranged from none to thirty minutes for most Title I teachers. The reported lack of time is

surprising since Title I teachers are not required to perform non-instructional school responsibilities.

Examination of the forms and paperwork required by Title I administration reveals none that are not necessary for program management and federal and state documentation requirements. Some relief may be afforded teachers if the requirements for the mid-year reports are re-examined and more use is made of the school department's computer facilities for record keeping requirements.

Value Perceived. Principals, classroom teachers, and parents were overwhelmingly satisfied with the work of Title I classes. As a result, principals and classroom teachers wanted the Title I Program to continue in their schools next year.

Program Initiation and Attendance. Generally, reading and math students began instruction the week of September 30. (These data were obtained from a sample of 434 reading and 601 math students selected at random from teacher's records.) As shown in Figure E-15, the largest proportion of students were enrolled by the end of September. Seventy-four percent of the reading students and 77% of the math students were enrolled by October 28. However, approximately 26% of the reading students and 23% of the math students were not enrolled until after October 28. Average attendance rates were 81% for reading students and 78% for math students.

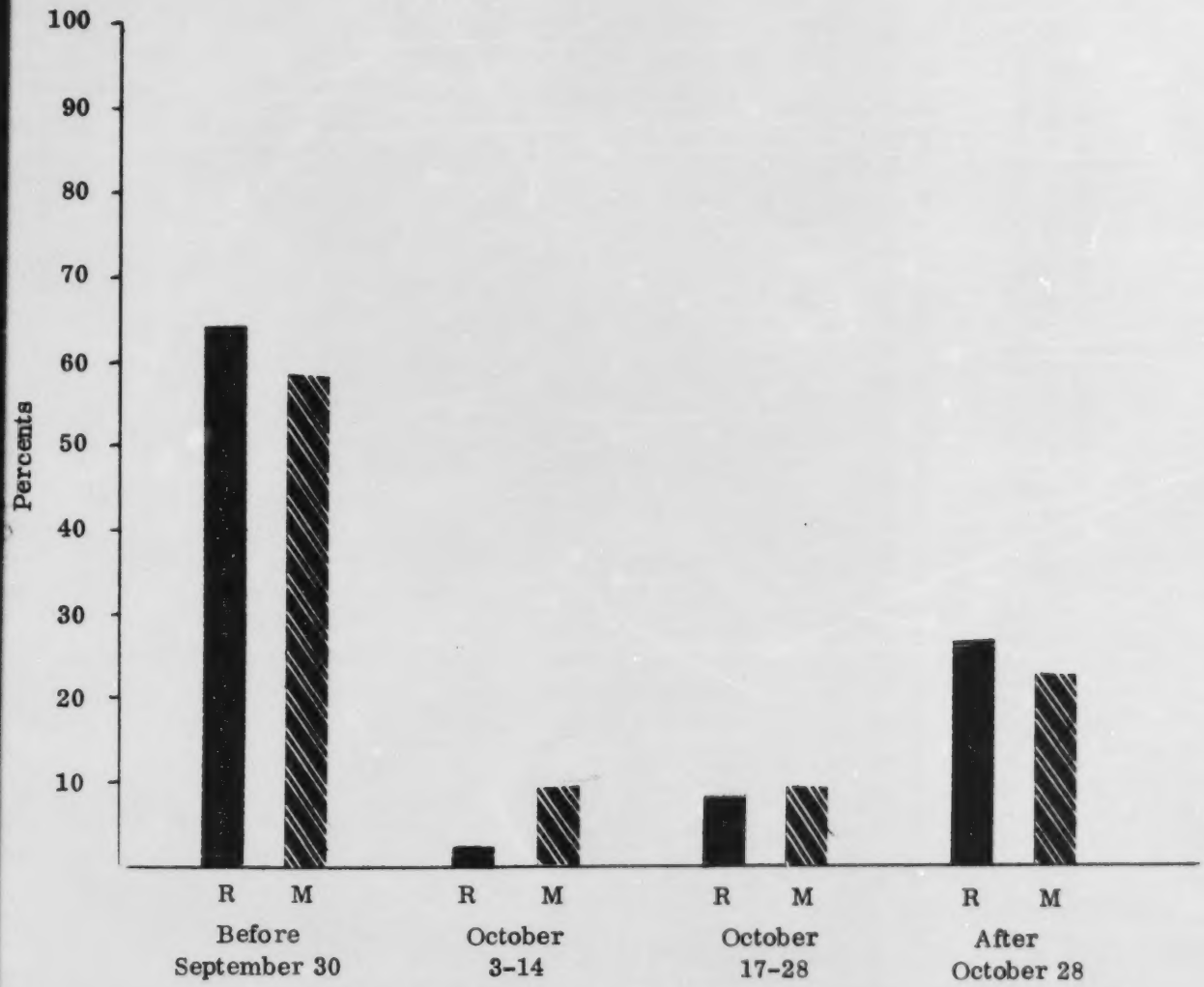

Figure E-15: Starting Dates for Elementary Reading and Math Students

IN-SERVICE OBJECTIVES - TEACHERS

Objectives

(a) to understand the purpose of the subject area performance objectives
(b) to be able to diagnose student instructional needs
(c) to learn to use materials in a prescriptive way
(d) to learn the techniques of individualizing instruction
(e) to learn how to plan effective and efficient individual daily lessons
(f) to share successful teaching techniques and teacher-made materials

Findings

In-service objectives were achieved to a limited degree because of the restrictions on in-service time imposed on the Title I Department. Sharing of techniques and materials among reading teachers and aides was particularly affected by the limitations.

The one day orientation was not considered sufficient for new teachers to be adequately informed of the instructional requirements of the program. For these teachers, in-service did not appear to supplement the orientation adequately, so that at the end of the year they were concerned that lack of sufficient in-service training may have made them less effective. Reading teachers were provided with on-site in-service at each school, which was helpful in attaining the objectives, though one-third thought it insufficient. Math teachers were more fortunate and participated in a workshop which was well received and effective in addressing the objectives.

Discussion

Orientation

Due to the central school administration decision to limit the time of teachers away from their schools, the orientation was held for one day instead of three as originally planned by the Title I staff. The first half of the day consisted of information about administrative requirements, and program guidelines. In

the afternoon, the teachers were divided into groups of approximately 50, separating the new from the experienced staff. This session emphasized instructional (diagnostic and planning) requirements and the use of materials.

The orientation was satisfactory for most experienced teachers. The new teachers, however, did not find it sufficient. According to the new teachers, in-service did not supplement the orientation adequately. At the end of the year, the new teachers expressed concerns that the lack of in-service training may have made them less effective.

In-service

As noted above, a decision from the central school administration office restricted the provision of in-service training to teachers this year. The resulting training for this year differed for the reading teachers and the math teachers. Reading staff had on-site instruction during the first half of the year; math teachers were given a workshop experience in April.

Reading

On-site instruction for the reading teachers (and aides) focused on Using the Basal Series for Corrective Instruction and Pacing. The Assistant Directors, Staff Development held ninety minute sessions with the individual teacher and aide or several teachers and aides at each school. Eighty-six percent of the reading teachers found the on-site in-service visits helpful. However, only

two-thirds of the Title I reading teachers thought this in-service was sufficient. The new teachers were even less satisfied: 48% thought they needed more training. In interviews, teachers reported that they felt that regular classroom teachers did not like having Title I teachers in the school with no Title I class in session. In some cases an aide had to substitute while the teacher was receiving instruction. Teachers definitely missed the workshop experience with its resulting personal contact with their colleagues and the concommitant sharing. Some suggestions offered by teachers for workshops to be held in the future were: comprehension, reinforcement problems, sharing materials review of performance objectives and reading skill profile charts, study skills, and perception problems for readiness level.

Math

The math teachers' workshop was given for half of the Title I math teachers and aides on one day and for the remaining on the following day. The full day session consisted of: a review of teaching approaches in various skill areas with opportunity to share materials demonstrated, a general sharing session with all teachers and aides, a filmstrip on the metric system and Ginn Skills series, and an introduction to the development of a guide correlating materials with students' needs.

All Title I math teachers and aides said the objectives of the workshop were clear. Seventy-three percent of the math teachers rated the presentation

of the workshop as excellent, with the remaining indicating that it was good. Eighty-one percent of the teachers said the workshop was extremely helpful. None indicated the workshop was not helpful. Practicality was rated slightly less highly; 67% of the teachers indicated that the presentation was highly practical. Again, none reported the workshop was not practical. Overall, the workshop was rated as very interesting by 65% of the teachers.

Most teachers reported that the strongest features of the workshop were the small group presentation and the session in which teachers' ideas and materials were shared. Concerning weaknesses few comments were made. Only two teachers felt that the workshop was too long. Another teacher also thought the presentation of the materials by their colleagues could have been more concise, while one complained of not being informed early enough to prepare for the materials presentation.

When asked what changes they would make in the workshop, many offered suggestions concerning the use of time. Some would have preferred the workshop earlier in the year, while others wanted more time to appreciate specific aspects of the session (e.g., demonstration by Assistant Directors, Staff Development of materials for the skill areas.)

While most did not respond when asked about suggestions for future workshops, a few were concerned about teaching the metric system. Two teachers did suggest that a booklet of teacher made materials be constructed for easy reference. Teachers also wanted time to work with the many materials that were presented.

IN-SERVICE OBJECTIVE - READING AND MATH AIDES

Objective

To enhance the aide's performance in whatever area he/she may be working, using commercial and self-made materials, slides, and group seminars.

Findings

This objective was met to a limited degree, since only two days of specific training for aides were permitted, and math aides were not provided with separate training from reading aides. (In fact, aides from all Title I programs were grouped together for in-service training.) However, reading and math aides were provided with in-service training along with their teachers during the year. Further attention to enhancing aide performance came through a revised and strengthened aide evaluation process.

Discussion

In addition to one day of orientation with teachers, aides were provided a second day of orientation. On the morning of the second day, two ESAA Reading Specialists presented reading and math materials relevant to the classroom. During the afternoon, six experienced aides displayed and reviewed materials they and teachers had prepared. Aides from all programs (i.e., Reading, Math, ESL, and Kindergarten aides) participated.

In May, another full day workshop was presented again for all Title I aides. This workshop focused on innovative methods of teaching reading and was conducted by a University reading specialist. No separate math workshop

was held for math aides, though math aides did participate in the math workshop for Title I teachers held in the Spring.

Reading aides also participated in the on-site in-service provided for Title I reading teachers by the Assistant Directors, Staff Development. Concerning this in-service which focused on Using the Basal Series for Corrective Instruction and Pacing, nearly three-fourths of the reading aides found it helpful.

The math workshop was well received by the math aides. It reviewed various teaching approaches and provided opportunities to share materials. All of the aides rated the workshop as good or excellent. Eighty-five percent of the aides reported that this workshop was extremely helpful, and all aides indicated that the workshop was either highly practical, or practical. Overall four out of five aides rated the workshop as interesting.

Despite the training provided, aides generally indicated a desire for more orientation and further training, with new aides particularly concerned.

The Assistant Director of Aides has paid increased attention to aides performance this year by visiting schools, revising aide evaluation procedures, and instituting closer scrutiny of aides' attendance habits. In addition, aides who had not yet been tested with the ABLE Reading or math test were required to be tested in the Spring. These data will be used as a needs assessment for planning future training.

It should be noted that the Assistant Director of Aides has responsibility for the evaluation of aides. This has been exercised through the principals and teachers - an expected process since there are over 400 aides in the Title I program. However, the Assistant Directors, Administration and the Assistant Directors, Staff Development are also involved in Title I supervision and have the opportunity to observe the aide's work. Thus, these personnel also bring problems to the attention of the Assistant Director of Aides which may require her attention.

PARENTAL INVOLVEMENT OBJECTIVES

Objectives

(a) to form a local Parent Advisory Council in each school
(b) to elect representatives to the City-wide Parent Advisory Council from District PAC's
(c) to establish a functioning City-wide Parent Advisory Council

Findings

Complete local Parent Advisory Councils (PAC's) were organized in 80 of the 95 elementary schools involved in the reading and math program. According to Community Relations Department records, almost all were formed before January, and little progress on local PAC development was made during the second half of the year. Incomplete PAC's were formed in nine other schools. District PAC's were also formed in mid-November with delegates coming from the local PAC's. At the end of November, the City-Wide PAC (CWPAC) was formed of representatives from the District PAC's. The 67 member CWPAC included 34 elementary school delegates and 25 elementary school alternates. The five PAC officers were elected in January. (High and middle school delegates complete the CWPAC.)

Discussion

Parent Advisory Councils

Local PAC's. As noted above, the overwhelming majority of local PAC's were formed during the first half of the year. These PAC's have at least five members, the minimum criteria established by Title I administrators for a functioning local PAC. The following elementary schools remain without PAC's:

District I: Baldwin, Milmore

District II: Higginson, Parkman

District IV: Bradford, Shaw, St. Matthew

District V: Stone, Greenwood

District VI: Mason, Winthrop, St. John (Rox)

District IX: Hennigan, Haley

The following schools have incomplete PAC's (less than five members):

District I: Barrett, St. Columbkille

District II: Berea, Abrahams, Fuller

District V: Marshall

District VI: Emerson

District VII: St. Joseph

District IX: Hernandez

With the exception of the storm delays in February, Community Liaison Aides (CLA's) were able to meet the schedule of required PAC meetings. In the majority of cases the Community Relations Assistants (CRA's) and CLA's received positive ratings for their efforts from PAC members. Local PAC members perceived their local PAC's as serving a valuable function.

District PAC. All District PAC's have been formed as reported above. Each elementary school local PAC formed has at least one delegate elected to the District PAC and most schools have alternates as well.

District PAC members reported that District PAC meetings were held frequently enough. They also reported that they received necessary information about the CWPAC activities.

City-Wide PAC. On the average, nearly half of the CWPAC members attended meetings. There appears to be a concentration of those attending from only selected areas of the city, generally corresponding to the same areas represented by the officers. It should be noted that the racial composition of the officers is not representative of the Title I student population. It was also reported by several members that there was some dissension among CWPAC members.

There was a surprisingly low return of evaluation questionnaires (14 members or 22%) that may be indicative of the attitude and involvement of CWPAC members. However, those that responded were generally satisfied with its advisory role, as were the officers who also reported that the administration was responsive to their input.

Community Relations Department

The Community Relations Department was reorganized this year to consist of two Community Relations Assistants (CRA's) and 12 Community Liaison Aides (CLA's) working in cooperation with the Associate and Assistant Directors, with one Assistant Director assigned principal liaison duties. The Community Relations Department was responsible for all PAC activities across all Title I programs, except the NIE project.

The coordination and support of the CLA's activities was the responsibility of the CRA's. The Assistant Director of Aides was responsible for evaluation

and hiring decisions. CLA activity was accountable through CLA weekly logs and daily telephone confirmations, though no systematic verification of CLA activity was made. The Assistant Directors did meet periodically with CLA's assigned to schools for which they were responsible to review PAC activities. However, their principal efforts focused on reimbursement of expenses to parents for attendance at local PAC meetings - a formidable task in and of itself. The Assistant Director serving as liaison also met with the CLA's and CRA's weekly to review progress. At the end of the year, principals of schools to which CLA's were assigned did submit formal evaluations of the CLA's. This evaluation process was under the direction of the Assistant Director of Aides.

Concerning the support received from the CRA's, CLA's generally rated their assistance favorably, and indicated that the CRA's attended PAC meetings with them as much as possible. Both CRA's and CLA's indicated that the Assistant Director serving as liaison to the department was supportive.

According to a summary of CRA activities (provided by only one of the CRA's) and from interviews with the CRA's, their principal duties were: assisting in preparation of letters, requests, and the like for CLA's, assisting CLA's in planning and scheduling PAC meetings, attendance at and preparation for district and city-wide PAC meetings, and attendance at sub-committee meetings. Noticeably absent from their duties were formal training of CLA's on conducting

meetings, community organization procedures, and Title I regulations and guidelines, and any formal supervision of CLA performance in the field.

Principals and parents were aware of the efforts of the CRA's and the CLA's. Parents were generally favorable about their work, as reported earlier. However, one-third of the principals were not satisfied with the efforts of the CLA's in establishing local PAC's, and only 58% of the principals recognized the efforts of the CRA's.

Objectives

(d) to provide members of the CWPAC technical assistance regarding Federal and State regulations and the operational components of the programs
(e) to increase parental knowledge of the programs, volunteers from local PAC's and the CWPAC will visit a limited number of Title I schools
(f) to continue parental involvement, volunteer parents will serve on sub-committees on Assessment of Needs, and on each of the components in the FY 79 Project Application.

Findings

CWPAC members and officers were provided technical assistance by an Assistant Director assigned to serve as liaison and the Community Relations Assistants. Twenty-eight volunteers from the local and CWPAC (including Research and Evaluation sub-committee members) visited 35 schools during the year. Further, six sub-committees with a total of 29 parents were formed: By-laws, Budget, Election, Language Arts, Planning, and Research and Evaluation.

Discussion

PAC officers and CWPAC members who responded indicated satisfaction with the technical assistance efforts of the Title I staff, and the responsiveness of the administration. The majority noted they had access to official documents and copies of PAC guidelines.

The rosters of the six sub-committees made up of volunteer parents contain a total of 91 names, with committees ranging from 8-24 members. However, many parents serve on more than one committee. For example, only six members serve on one committee, alone. Ten members serve on two committees, one on three committees, one on four committees, six members on five committees, and five members on six committees. Thus, volunteer participation on these committees was limited to a total of 29 parents. However, the visiting committee did result in 10 more parents becoming involved, in the parents visits to the Title I schools. The Research and Evaluation sub-committee working with the Associate Director for Title I Evaluation and assisted by the CLA's, conducted a needs assessment survey of Title I parents. This survey generated data from over 7000 parents, and the parents on this committee worked diligently in the sampling process and tabulation of the data.

RELATED ISSUES

At the beginning of the evaluation, the Title I administrators requested that several issues related to the evaluation be examined. These were: needed changes in administration and supervision, examination of record keeping, alternatives to the pull-out model, use of the performance objectives, and reorganization of the Community Relations Department. These issues have been discussed in the appropriate sections of this report. (In addition, a detailed reviews of pull-out and alternative methods was presented in a memo of February 14, 1978.)

The RFP requested that the evaluators examine whether overlap existed between Title I and other supplementary programs in Boston. Principals were asked to indicate which programs overlapped and the extent of such overlap. Only six of 84 principals responding reported any overlap as follows:

No. of Schools	Overlapping Program with Title I	Schools Reporting
1	Title VI (Special Education	Alighieri
3	Chapter 636	Guild, Hennigan, Warren-Prescott
3	ESAA	Blessed Sacrament, S. Greenwood, Anonymous
1	Title VII (Bilingual)	Anonymous

The principals did not elaborate on the extent of the overlap.

SUMMARY OF FINDINGS

The Elementary Reading and Mathematics Programs is a long established program which this year served approximately 9,000 students - 7,000 in reading and 1,200 in math. Two hundred and twenty-five teachers and aides worked in the program. A teacher and aide team worked daily with 42 students in groups of seven to provide an individualized remedial program based upon diagnostic tests and specific performance objectives.

Gains in reading were mixed, with students in grades 2 and 6 exceeding criterion gains in both grade equivalent score and percentile standing. Students in grade 3 advanced in percentile standing, but did not meet the criterion in grade equivalent score. Grade 4 students maintained their standing both in terms of grade equivalent and percentile scores. In grade 5, students exceeded the criterion in grade equivalent score, but maintained the same level in percentile standing.

Gains in mathematics exceeded projected gains, with students at all grades making large gains in both grade equivalent and percentile scores.

In-service objectives were achieved to a limited degree because of restrictions on in-service time imposed on the Title I department. Some on-site in-service was provided to reading teachers and aides, and while effective, it was not considered sufficient. Math teachers and aides were able to attend an in-service session which was judged to be effective in addressing in-service

RELATED ISSUES

At the beginning of the evaluation, the Title I administrators requested that several issues related to the evaluation be examined. These were: needed changes in administration and supervision, examination of record keeping, alternatives to the pull-out model, use of the performance objectives, and reorganization of the Community Relations Department. These issues have been discussed in the appropriate sections of this report. (In addition, a detailed reviews of pull-out and alternative methods was presented in a memo of February 14, 1978.)

The RFP requested that the evaluators examine whether overlap existed between Title I and other supplementary programs in Boston. Principals were asked to indicate which programs overlapped and the extent of such overlap. Only six of 84 principals responding reported any overlap as follows:

No. of Schools	Overlapping Program with Title I	Schools Reporting
1	Title VI (Special Education	Alighieri
3	Chapter 636	Guild, Hennigan, Warren-Prescott
3	ESAA	Blessed Sacrament, S. Greenwood, Anonymous
1	Title VII (Bilingual)	Anonymous

The principals did not elaborate on the extent of the overlap.

SUMMARY OF FINDINGS

The Elementary Reading and Mathematics Programs is a long established program which this year served approximately 9,000 students - 7,000 in reading and 1,200 in math. Two hundred and twenty-five teachers and aides worked in the program. A teacher and aide team worked daily with 42 students in groups of seven to provide an individualized remedial program based upon diagnostic tests and specific performance objectives.

Gains in reading were mixed, with students in grades 2 and 6 exceeding criterion gains in both grade equivalent score and percentile standing. Students in grade 3 advanced in percentile standing, but did not meet the criterion in grade equivalent score. Grade 4 students maintained their standing both in terms of grade equivalent and percentile scores. In grade 5, students exceeded the criterion in grade equivalent score, but maintained the same level in percentile standing.

Gains in mathematics exceeded projected gains, with students at all grades making large gains in both grade equivalent and percentile scores.

In-service objectives were achieved to a limited degree because of restrictions on in-service time imposed on the Title I department. Some on-site in-service was provided to reading teachers and aides, and while effective, it was not considered sufficient. Math teachers and aides were able to attend an in-service session which was judged to be effective in addressing in-service

needs. Aides received two more days of training - an orientation focusing on materials and a reading workshop (which was attended by all Title I aides regardless of subject matter taught.)

Local Parent Advisory Councils (PAC's) were formed in 84% of the Title I elementary schools. District and city-wide PAC's were also formed, with the city-wide PAC taking an active role in the form of meetings and committee work. Some problems were identified regarding the functioning of the Title I Community Relations Department, particularly in the area of duties and accountability of the Community Relations Assistants and Community Liaison Aides.

Few cases of overlap (8) between the Title I program and other federal and state supplementary programs were found.

The program is well established and its operational aspects reflected its maturity. Few serious problems were encountered. In general, administration and supervision, facilities, materials, morale, student selection, teacher aides and the operation of the NCEC labs were positive features of the program. The most important problems found dealt with operation of the Community Relations Department and limited in-service as noted above. Other concerns were the need for more help for new teachers, increased communication between Title I and regular classroom teachers, increased communication among Title I teachers, and increased communication with parents. Some confusion in the use of the Skill Profile Chart and performance objectives, and complaints about paperwork were also noted.

RECOMMENDATIONS

Insure that new Title I teachers receive extra support in implementing student programs, either on-site or through a group meeting with the Assistant Directors, Staff Development.

Continue to emphasize to principals and school staff the importance of regular communication between Title I and classroom teachers. If classroom teachers continue not to respond on the progress report, institute other communication procedures.

Conduct regular in-service meetings during the year focused clearly on identified needs and allow some time at each for interchange of ideas and materials among teachers.

Insure that all Title I teachers plan regularly for an individualized program for each student, using the required elements of the individualized plan.

Explain clearly the role of the math component and math teachers, and increase attention given to this component in in-service and supervision.

Increase supervision of NCEC Labs by the Assistant Directors, Staff Development.

Establish a committee of Title I administration and teachers to establish consistent procedures for use of either the performance objectives or the Skill Profile Chart as an instructional management tool.

Continue efforts to increase parental communication, focusing on the initiation of personal contact between teachers and parents.

Provide alternative Title I reading instruction in schools with NCEC labs to meet the needs of students for whom the Lab is not appropriate.

Re-examine the need for interim attendance reports and performance objective summary sheets and final performance objective summary sheets. Eliminate this paperwork if it is determined to be unnecessary.

Select students for the program in the spring using teacher judgement weighted as part of the selection process and taking advantage of the system's computer facilities for student score lists.

Provide more than one day of orientation for new Title I teachers.

Focus in-service training for aides on their specific needs within the particular program to which they are assigned.

Increase the interaction between the Assistant Directors, Administration and Staff Development, and the Assistant Director of Aides concerning supervision and evaluation of aides.

Assign direct responsibility for CLA activities to CRA's who should monitor and evaluate their performance.

Institute specific training for CLA's by the CRA's on conducting effective meetings, community organization procedures, Title I guidelines, and the preparation of letters, invitations, and the like.

Assign direct responsibility for CRA to the Assistant Directors, Administration who should monitor and evaluate their performance.

Develop plans for utilization of the system's computer capabilities for record keeping and selection requirements.

Concentrate CRA and CLA efforts on those schools which have not yet formed PAC's.

Concentrate efforts of Community Relations staff on increasing the number of parents serving on sub-committees.

Develop and disseminate a written policy concerning the priority of Title I services and the need to avoid duplication with other supplementary. Alert Title I teachers to report to Title I administrators any suspected overlap of services.

Consider expanding the role of the Community Relations Department beyond the establishment of Councils to the broader involvement of parents in the program.

MIDDLE SCHOOL READING PROGRAM

INTRODUCTION

Table M-1 presents an overview of the Middle School Reading Program, which was in its third year of full operation. The Middle School Reading Program was implemented in 26 schools this year--the same number as last year. There were 19 public schools and seven parochial schools in the project. Approximately 2,000 students were served in the program by 48 teachers and 48 instructional aides.

Table M-1

Overview of Middle School Reading Program*

	Schools	Teachers	Aides
Public	19	41	41
Parochial	7	7	7
Totals	26	48	48

* Data as of December, 1977 provided by Title I office.

The principal instructional mode was an individualized system in which a teacher and an aide served a total of 40 students in five 45 minute periods, five days per week. In addition, the New Century Reading Lab operated in three schools serving approximately 140 students per day in groups of 28 students.

As in the Elementary Enrichment Program, the focus was upon meeting the needs of the individual student. The New Century Lab is designed to individualize the instructional process completely with each child working at his/her own level and pace. To accomplish individualization in the non-Lab mode, a complete instructional system has been developed. The system includes informal and standardized diagnostic tests to identify strengths and weaknesses, and a systematic lesson plan format which encourages individualization of planning and instruction.

Overall program administration and supervision was the responsibility of a central administrative component. An Associate Director-Secondary and an Assistant Director-Secondary served the administrative requirements of the Middle School Program and also were concerned with instructional supervision and staff training. These administrators were assisted by the Assistant Directors-Staff Development in instructional supervision and staff training.

In-service for teachers and aides, and parental involvement were also components of the Middle School Program.

TERMINAL INSTRUCTIONAL OBJECTIVE

Objective

Students who participate in the Title I Reading Program will demonstrate a reduction of reading deficiency as measured by pre-post standardized reading tests on the Metropolitan Achievement Tests. The growth anticipated as the terminal measure is a grade equivalent increase of at least .7 months per month of instruction.

Findings

Based on the results of test data obtained from fall and spring testing with the Metropolitan Achievement Tests, middle grade students, on the average, exceeded the criterion stated for the objective. Students in grade 6 and 7 gained at a rate of 1.1 months in G.E. score per month of instruction in Total Reading. For students in grade 7, it was 1.0. Differences among program groups emerged in grades 7 and 8. NCEC Lab students gained more than the public or parochial students in these grades. Also, the parochial school students in grades 7 and 8 scored lowest of the three groups, failing to exceed .7 months per month of instruction in Total Reading (See Table M-2.)

When percentile scores are examined, the gains shown by grade equivalent scores are confirmed. On the average, students at each grade level in each group advanced in percentile rank from pretest to posttest. Again, in grades 7 and 8, NCEC Lab students made the largest gains, while parochial school students gained the least. (See Table M-3.)

Discussion

Product

As reported in the evaluation design, the Metropolitan Achievement Tests were administered in October and May. Seven months of instructional time elapsed between pretest and posttest. Results of the statistical analysis used to compare October to May changes are reported in Tables 1C to 3C of Appendix C. With the exception of Word Knowledge and Reading for parochial school students in grade 8, all gains were statistically significant at all grade levels for all groups.

Mean grade equivalent scores corresponding to mean standard scores in Total Reading are displayed in Table M-2. (The interested reader is directed to Tables 4C and 5C of Appendix C for the grade equivalent scores on each Reading subtest.) Large gains in grade equivalents were made by all groups across all grades except for parochial school students in grades 7 and 8. Grade equivalent gains in Total Reading ranged from 4 to 10 months, over the seven months between pre- and posttests. The norm monthly gain rate of 1.0 was equalled or exceeded by every group except public school students in grade 8 and parochial school students in grades 7 and 8. Monthly gain rates for all but these students ranged from 1.0 to 1.4 months in grade equivalent score for each month of instruction. The G.E. gains in Total Reading for grades 6-8 students are graphically shown in Figures M-1 to M-3.

Table M-2

Summary of Mean Grade Equivalent Scores
Middle School Program - Total Reading

Group	Pretest G. E. Mean	Posttest G. E. Mean	Mean G. E. Gain	Monthly Gain Rate
		Grade 6		
Public Schools	3.6	4.4	0.8	1.1
Parochial Schools	4.9	5.6	0.7	1.0
NCEC Schools	3.9	4.6	0.7	1.0
All Participants	3.8	4.6	0.8	1.1
		Grade 7		
Public Schools	3.9	4.6	0.7	1.0
Parochial Schools	5.2	5.7	0.5	.7
NCEC Schools	4.3	5.3	1.0	1.4
All Participants	4.2	5.0	0.8	1.1
		Grade 8		
Public Schools	4.4	5.0	0.6	.9
Parochial Schools	6.2	6.6	0.4	.6
NCEC Schools	4.6	5.5	0.9	1.3
All Participants	4.8	5.5	0.7	1.0

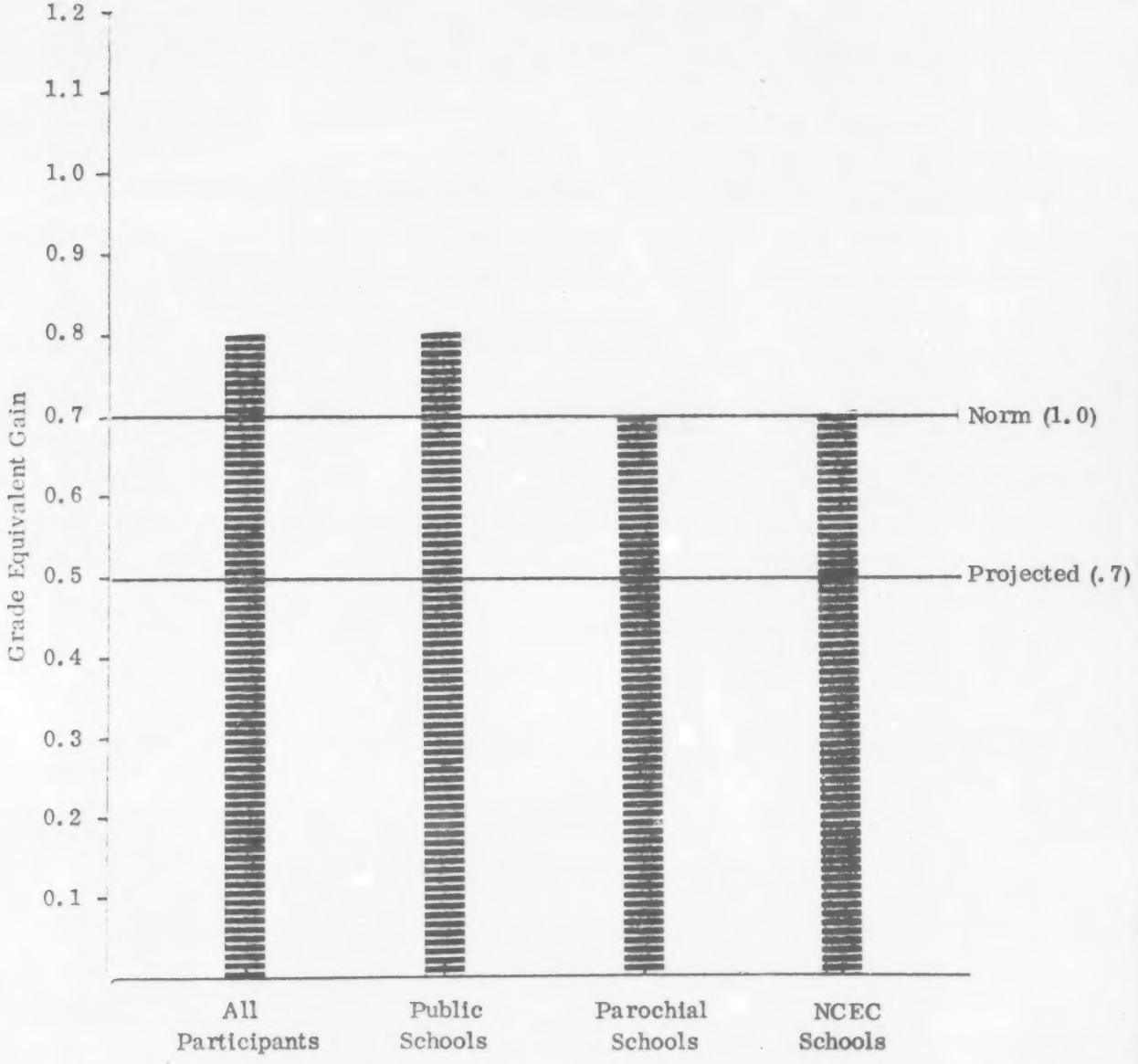

Figure M-1: Gains in Total Reading of Middle School Program Groups in Grade 6

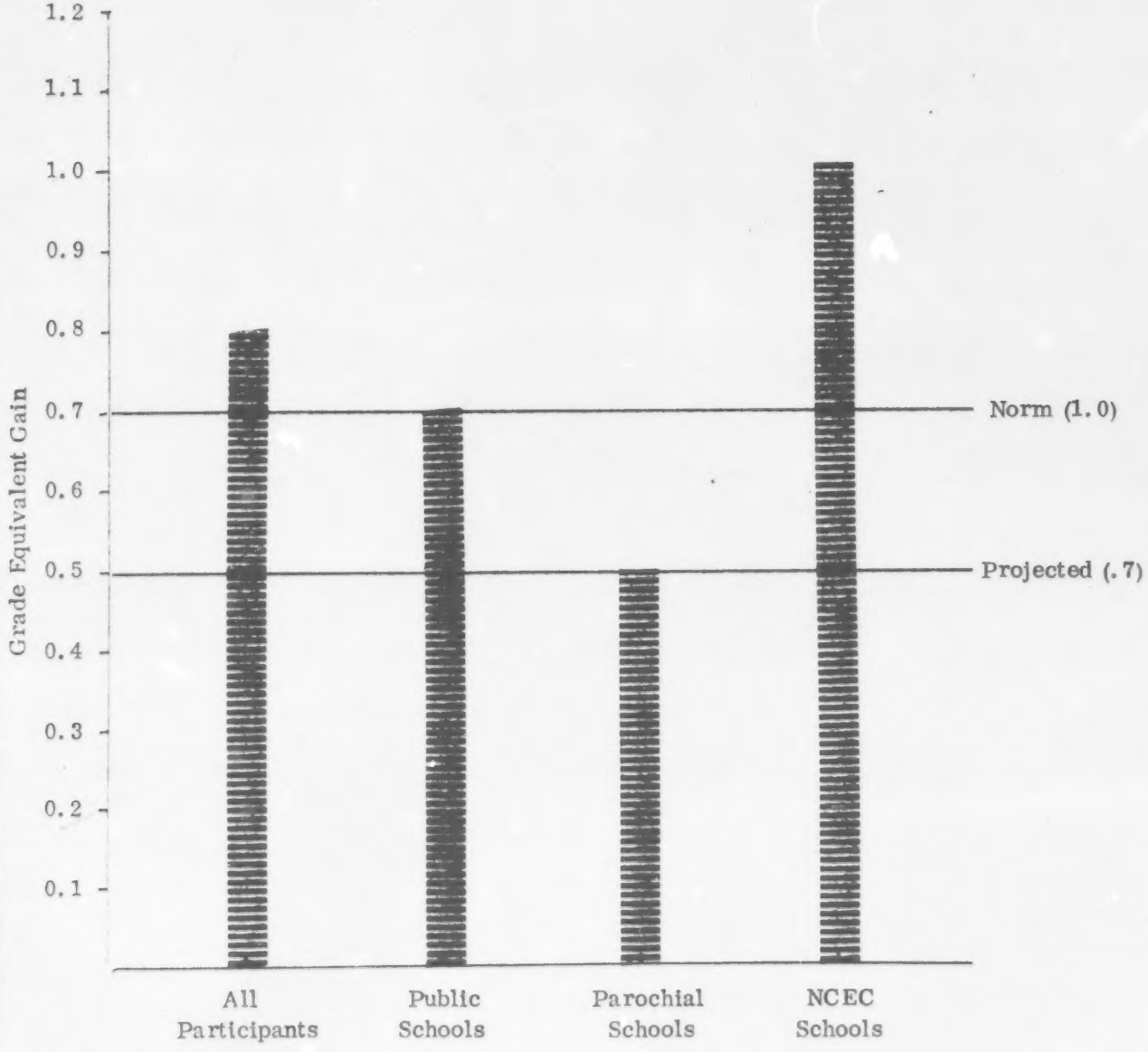

Figure M-2: Gains in Total Reading of Middle School Program Groups in Grade 7

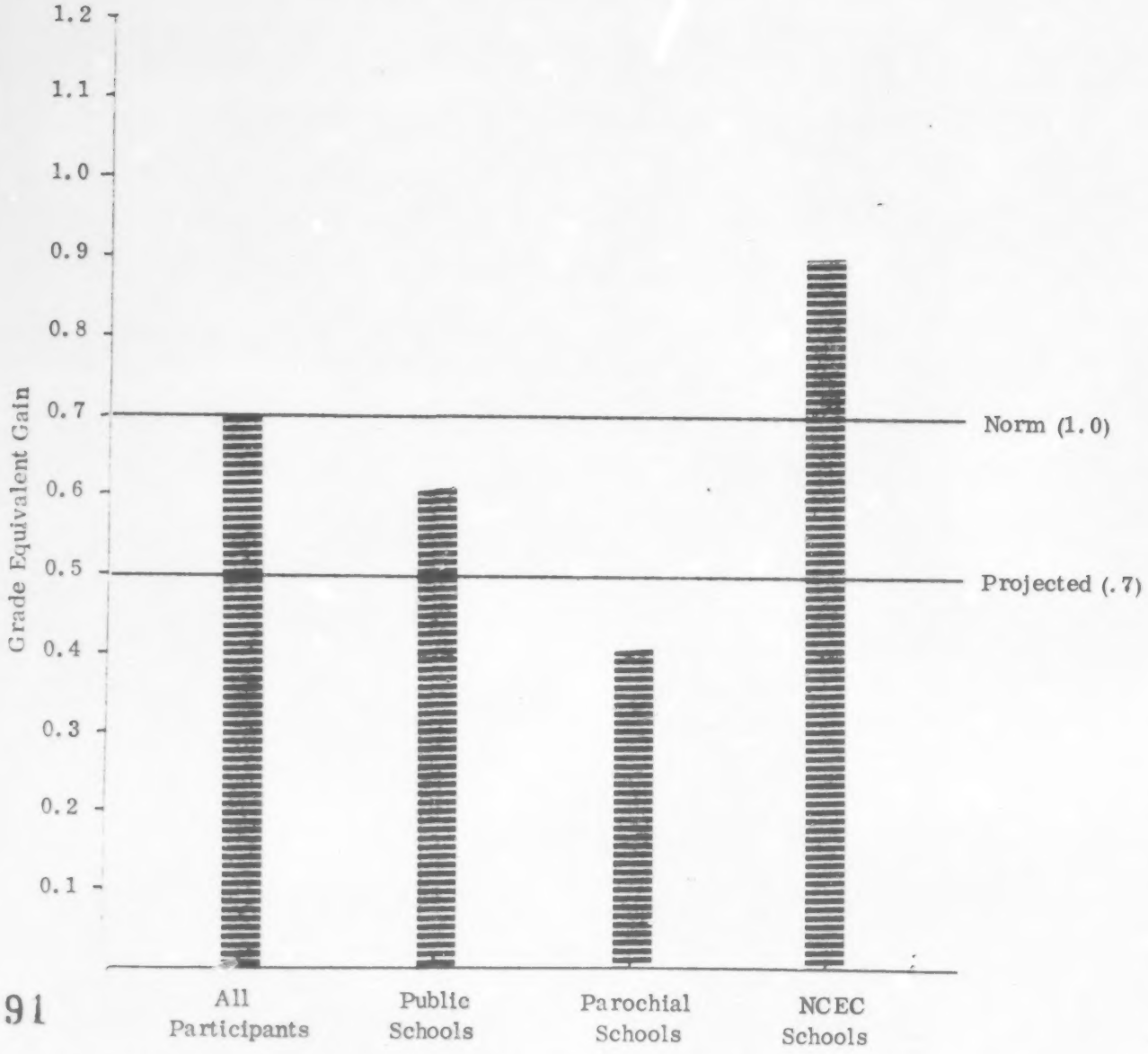

Figure M-3: Gains in Total Reading of Middle School Program Groups in Grade 8

On the average, parochial school students tended to score higher than both public and NCEC program students on both the pretest and the posttest. NCEC students generally scored between public and parochial school students in grades 6, 7, and 8, but showed the largest gains of the three groups in grades 7 and 8. Monthly gain rates for NCEC students were 1.0, 1.4, and 1.3 for students in grades 6, 7, and 8, re-pectively.

In addition to grade equivalent scores, students' scores were transformed into percentile and NCE scores. These scores provide a different perspective for assessing the degree of achievement of the students; relative to their peers nationwide. A summary for Total Reading for grades 6-8 is shown in Table M-3. (Percentiles and NCE scores for each subtest for each group are shown in Tables 6C and 7C in Appendix C.) Table M-3 shows the mean scores for both pre- and posttest in terms of their national percentile rank and accompanying NCE's. An increase in the percentile standing from pre- to posttest would indicate that the students were achieving at a rate greater than their post performance. That is, they would have advanced in standing with respect to their norm group. As the table indicates, students did show a faster rate of achievement in Total Reading for all grades. Student gains in Total Reading ranged from 2 to 11 percentile points from pretest to posttest. The gains in percentile rank in Total Reading for middle school students are graphically displayed in Figure M-4.

Table M-3

Summary of Mean Percentile and NCE Scores
Middle School Program - Total Reading

Group	Percentile			NCE		
	Pre	Post	Gain	Pre	Post	Gain
Grade 6						
Public Schools	10	14	4	23.0	27.2	4.2
Parochial Schools	28	32	4	37.7	40.1	3.6
NCEC Schools	14	16	2	27.2	29.1	2.1
All Participants	12	16	4	25.3	29.1	4.2
Grade 7						
Public Schools	8	16	8	20.4	29.1	9.3
Parochial Schools	22	28	6	33.7	37.7	4.0
NCEC Schools	12	23	11	25.3	34.4	9.1
All Participants	11	20	9	24.2	32.3	8.1
Grade 8						
Public Schools	8	12	4	20.4	25.3	5.1
Parochial Schools	23	26	3	34.4	36.5	2.1
NCEC Schools	10	16	6	23.0	29.1	6.1
All Participants	11	16	5	24.2	29.1	5.1

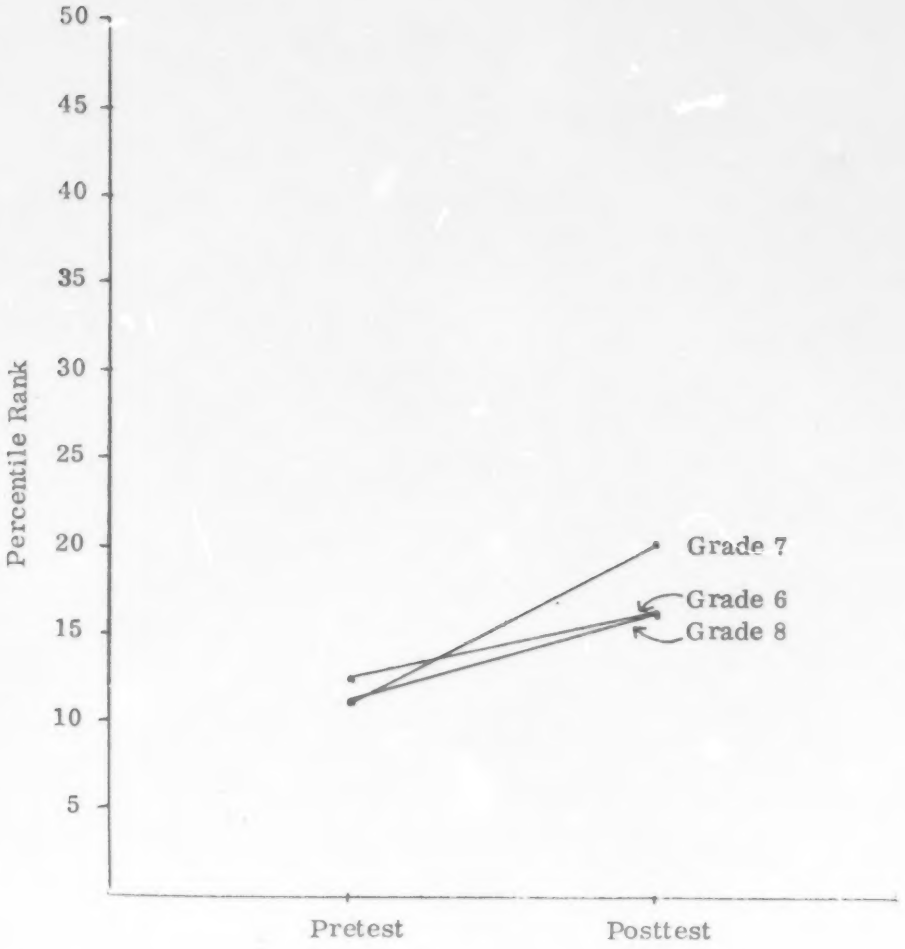

Figure M-4: Gains in Percentile Rank in Total Reading for Grades 6-8 - All Participants

Another view of the impact is gained from an examination of the NCE scores in Table M-3. Student gains in NCE score from pre- to posttest corroborate the percentile gains demonstrated by the students in Total Reading and provide further evidence of the positive impact of the Title I Project on its participants. NCE gains ranged from 2.1 to 9.3 units from October to May.

(Achievement of specific reading performance objectives as rated by teachers was tabulated for a sample of 1,098 students. These results are presented in Appendix F under separate cover.)

Jackson-Mann Program. Title I remedial reading services were provided to hearing-impaired students enrolled in grades 7, 8, and 9 of the Jackson-Mann Hearing Unit. Because of the special learning disabilities of these students, they were pre- and posttesed with the Elementary level of the Metropolitan Achievement Test (a level applicable to students at a much lower grade level). The mean standard score for each grade, on each subtest, is presented in Table M-4. (A test to determine statistical significance from pre- to posttesting was not performed due to the small size of each group.) For purposes of interpretation, the mean standard scores on the pretest and posttest were transformed into grade equivalents. These are also reported in Table M-4.

The data reported in Table M-4 shows that hearing impaired students in grade 7 scored, on the average, at 1.7 G.E. on the pretest in Total Reading and posttested at a G.E. of 2.3. Grade 8 students with hearing impairments

Table M-4

Summary of Mean Pretest and Posttest Results
on the Reading Subtests - Jackson-Mann Program

Grade	N	Subtest	Mean Standard Score		Mean G. E.		
			Pre	Post	Pre	Post	G. E. Gain
7	5	Word Knowledge	46.00	48.80	2.1	2.3	.2
	5	Reading	32.80	46.20	1.5	2.1	.6
	5	Total Reading	36.20	47.00	1.7	2.3	.6
8	3	Word Knowledge	42.33	44.33	1.9	2.0	.1
	3	Reading	50.33	55.33	2.4	2.8	.4
	3	Total Reading	44.33	47.00	2.1	2.3	.2
9	8	Word Knowledge	51.75	50.50	2.5	2.5	-
	7	Reading	44.43	51.29	2.0	2.5	.5
	6	Total Reading	50.00	50.67	2.5	2.5	-

pretested at 2.1 G.E. in Total Reading and averaged 2.3 G.E. on the posttest. In grade 9, the students pre- and posttested at a grade equivalent of 2.5 in Total Reading.

Grade equivalent gains from pre- to posttests were calculated for each grade level on each subtest, and are also reported in Table M-4. Students in grade 7 demonstrated the largest G.E. gains from pre- to posttest, averaging two months G.E. gain in Word Knowledge and six months gain in Reading and Total Reading. Grade 8 students gained one month in grade equivalent score in Word Knowledge; four months G.E. in Reading; and two months G.E. in Total Reading. Hearing impaired students in grade 9 gained in grade equivalent score only on the Reading subtest, showing an improvement of five months G.E. from pre- to posttest. For all three grade levels, strongest gains in G.E. were demonstrated on the Reading subtest.

While it would be illustrative to also inspect the percentile and NCE scores for these students, at this time there exists no true representative norm group for hearing impaired students on the Metropolitan. Hence, percentile ranks and NCE scores are not reported for these students.

The issue of the insuitability of this test for evaluation of the students in the Jackson-Mann Program is reviewed later in the Process section of this Discussion.

Process

Discussed below is a summary of the evaluation of those inputs and operational processes related to the proper functioning of the Title I Program and the attainment of its reading product objectives. Included are: administration and supervision, communication, facilities, Jackson-Mann Program, objectives, New Century Reading Laboratory, parental communication, student evaluation, teacher aides, time, and value perceived by others. This discussion is based on site visits to Title I classrooms, and personal interviews and/or questionnaires administered to administrators, supervisors, Title I teachers, principals, classroom teachers, and parents.

Administration and Supervision. Having received appropriate information concerning Title I guidelines and sufficient support for their particular administrative needs, Title I teachers reported that the organization and administration of the Middle School Program was satisfactory. Principals reported satisfactory cooperation with Title I teachers and the program's administration.

The supervision of Title I teachers was also satisfactory according to Title I teachers and their principals. However, a significant minority of Title I teachers, most notably the new staff, indicated that they could have used additional specific help in establishing programs for their students. No other suggestions were offered for improvement of administration and supervision of the Middle School Program.

It should be noted that the Title I Program was disbanded at the Theodore Roosevelt School on April 24. The assigned teacher went on leave of absence for the program, and the substitute teacher proved inadequate in fulfilling the responsibilities of the program. It was decided by the administration that with only two months left in the school year, the process of hiring and orienting a new teacher would leave little time for effective instruction.

Communication. Communication with classroom teachers continues to be a problem in the Middle School Program and most Title I teachers believed such communication needed to be improved. They based their negative reactions on the following experiences: problems with initial scheduling of students (47%) with scheduling resulting in continued detraction from efficient operation through the year (34%); lack of cooperation in helping diagnose student needs (49%); and inadequate discussion of student progress (48%). While a majority of classroom teachers (77%) did not perceive communication as a problem, many did see "the pull-out" procedure of Title I instruction itself as impeding rapport with the Title I teachers. Interestingly, all principals were satisfied with cooperation and communication between themselves and the Title I teacher, and most did not recognize the communication problem between the Title I teacher and classroom teachers.

Although an in-service session was held in April, a significant proportion (78%) of Title I teachers felt a need for better communication with other Title I

teachers. This year the opportunity to exchange ideas, materials and methods with other teachers was limited because of the restriction on in-service time imposed by the central school administration.

Facilities. In general, teachers indicated that their facilities were only fair. Of particular concern were the space problems at the Taft School and "floating" teachers at the Cleveland and Umana Schools. Accommodations for more than one group was rated poor by 42% of the teachers. Lighting was poor in 20% of the cases, and distraction excessive for 18% of the teachers. (Specific schools where space problems existed were identified in the interim report.)

Instruction. Teachers identified the learning needs for each child following specific procedures outlined for the program. Teachers reported that an individual instructional sequence was prepared for each student using the Individual Prescriptive Work plan or an alternative form. Teachers reported that their instruction was given primarily in small groups or on a one to one basis. According to nearly three-fourths of the Title I teachers coordination of instruction with classroom teachers was low, a characteristic problem for the nature of a Middle School Program, but some good attempts were made by teachers (56%) to teach reading within content areas. Most Title I teachers were comfortable with the student/teacher ratio.

During observation of classes, an average of six students were in attendance. It was observed that 25% of the classes were taught in one group. Most of the

time was spent in direct skill instruction, or students using workbooks or worksheets. Teacher and student interaction through questioning was high. Oral and silent reading was observed in about one-fifth of the classrooms.

Aides activity consisted primarily in tutoring students using worksheets or workbooks and interacting in question and answer sessions. Aides were also observed in general supervision of student work and correcting worksheets.

Principals, classroom teachers and Title I teachers were asked to indicate an optional format for Title I remedial instruction. A majority supported the current pull-out model. Sixty-nine percent of the principals, and 75% of the Title I staff favored the pull-out system, though only 56% of the classroom teachers agreed. One-fourth of the principals, 35% of the teachers and 11% of the Title I teachers indicated the decision should be made on individual student needs. Only a few of each group supported Title I instruction in the classroom.

Jackson-Mann Program. At the Jackson-Mann Middle School, a Title I reading program was conducted for deaf students. The program's administration was viewed as extremely empathetic to the unique problems of teaching reading at this school. Local support by the principal and regular classroom teachers was also excellent. The Title I teacher participated in a weekly meeting, which consisted of members of the school staff and consultants, to discuss student problems.

The teaching environment was excellent and materials were also good. The Cambridge Workbooks and Barnell-Loft Series were judged especially helpful. However, because the teacher has three remedial tasks to perform--reading, signing and oral language, "word meaning" basal instruction might be more helpful than a phonics or linguistic approach to reading. Additional materials for this type of instruction may be helpful.

Student evaluation based on the results of the Metropolitan Achievement Tests will be quite limited. Administration of this test was difficult, and it cannot be certain that reading achievement for these students is adequately measured. A more appropriate instrument should be identified.

The teacher planned instruction according to individual needs with classes generally instructed in small groups or on a one-to-one basis. The rapport between teacher and aide was excellent, and both teacher and aide have been trained in signing.

Observation revealed specific skills and vocabulary were taught with oral reading. There was much interaction between student and teacher through discussion and questioning. The teacher utilized visual aides--the blackboard and overhead projector; and students had an opportunity to write through reinforcing exercises.

Response to the parent's questionnaire was poor. Six parent respondents did report that their child showed more interest in reading and concluded that

Title I made the difference. The principal and classroom teachers likewise acknowledged the benefits of the program for their students.

Materials. The majority of Title I teachers were generally satisfied with both the quantity and quality of the instructional materials. School supplies were also sufficient. Other sources of instructional materials were individual teacher orders for specific needs (up to $50) and materials prepared by other Title I teachers. Most Title I teachers indicated that they utilized each of these opportunities to obtain materials. In interviews, teachers reported the need for more high interest, low level reading materials.

Morale. Despite the communication problems noted previously, both principals and Title I teachers generally saw Title I teachers as an integral part of the faculty. Most Title I teachers felt qualified to be working in the Title I Program. Morale among the Title I staff was generally high, and teachers reported they were pleased to be working in the Title I Program.

New Century Reading Laboratory. No problems were perceived in the administration and organization of the Reading Labs. Supervision by the Assistant Directors, Staff Development was limited, though this was not viewed as a problem by Lab personnel. Scheduling, student-teacher ratio, and maintenance and quality of the Lab materials and equipment were all satisfactory. However, lack of opportunity to meet with other Lab teachers was a concern to some of the Lab teachers. Paperwork was also cited as a problem.

Placement tests to identify student weaknesses were judged to be adequate and Lab instruction met the needs of the majority of students according to Lab teachers. Most Lab teachers believed the Lab experience was as good as the traditional Title I approach, except for about 10% of the class. However, there was some question whether students with severe reading problems benefitted from Lab instruction. Half of the Lab teachers believed that the format of the Lab instruction was tiring to students, but they were undecided whether this seriously affected their performance.

Lab teachers generally were positive about communication with classroom teachers, but they were split concerning their satisfaction with discussing student progress with them.

Teachers were also split in their satisfaction with parental involvement particularly concerning personal contact and reporting student progress. One teacher noted how difficult it was to interpret achievement to parents using New Century levels of reading.

Teachers felt that Lab instruction was professionally rewarding. They reported that students benefited substantially from their participation in the program and also enjoyed coming to the Lab.

The morale of aides in the Lab was high. Rapport with teachers was also reported as good. Aides did indicate that they would have liked more information

regarding the nature of their duties and responsibilities, especially concerning particular problems of Lab instruction.

Particular deficits in the Lab approach mentioned by teachers were gaps in skill instruction and lack of skill reinforcement when higher levels of comprehension are achieved.

Objectives. All groups involved, Title I teachers, principals and classroom teachers indicated they understood the objectives of the Title I Program. Most believed these objectives met the needs of the students. Program objectives were delineated in a set of specific performance objectives, as well as on the Skill Profile Chart.

All Title I teachers reported using the performance objectives to teach, and all but two said they used them to evaluate students. However, all but one teacher indicated they also used the Skill Profile Chart for teaching and evaluation. Further efforts were made during site visits to ascertain the actual use of the two sets of references. From interviews during site visits it was determined that 32% of the teachers used the performance objectives and the Skill Profile Chart only as a periodic reference. On the other hand, 15% used both tools in daily planning. Twenty-six percent used the performance objectives in daily planning and the Skill Profile Chart periodically, while 11% did just the opposite. A few teachers used only one tool or the other; 11% used the Profile Chart in planning, and only one teacher referred to the performance

objectives alone as a periodic reference. When the teachers were asked which guide they preferred, nearly half (47%) favored the Skill Profile Chart rather than the performance objectives (11%). Thirty-seven percent said they liked using both. One teacher stated that both guides were inadequate.

Parental Communication. Communication with parents was unsatisfactory according to two-thirds of the teachers. They reported meeting only four parents on the average. Over three-fourths of the teachers believed the parents lacked interest in the program. About half of the teachers were satisfied with the progress reports sent home to parents, and nearly three-fourths of the parents responding were satisfied with the information they received.

Student Evaluation. A significant majority of principals, Title I teachers and classroom teachers felt the Title I Program was serving students who needed help most. Classroom teachers agreed, though the percent indicating satisfaction was lower (60%).

Most Title I teachers were satisfied with the diagnostic test and devices available for their use to identify student strengths and weaknesses.

Teacher Aides. Good rapport was reported between teachers and aides. Aides were used predominantly in an instructional capacity, and both teachers and aides felt that the aide's presence made it easier for individualization of instruction.

Although aides reported they were used effectively in the program, they would have appreciated more accurate information regarding their duties and responsibilities at the beginning of the program.

In general, morale was high among the aides. Although they felt competent about their abilities and training, aides did desire further training to improve their role.

Time. Because Middle School teachers have two planning and administrative periods, most Title I teachers found enough time for instructional planning and paperwork required by Title I; however they felt there was too much paperwork, in general. The chief source of their complaint was the attendance and performance objective summary sheets.

Examination of the forms and paperwork required by Title I administration reveals none that are not necessary for program management and federal and state documentation requirements. Some relief may be afforded teachers if the requirements for the mid-year reports are re-examined and more use is made of the school department's computer facilities for record keeping requirements.

Value Perceived by Others. All classroom teachers and principals were satisfied with the work of the Title I teachers, and the majority wanted the program continued in their schools next year.

Program Initiation and Attendance. Typically, students began instruction in the last week of September or the first week of October (obtained for a sample of 442 students selected at random from student attendance records). As shown in Figure M-5, 63% of the students began instruction by the end of September, and 86% of the students were enrolled before the middle of October. The average attendance rate of 76% represented an improvement of seven percentage points over last year.

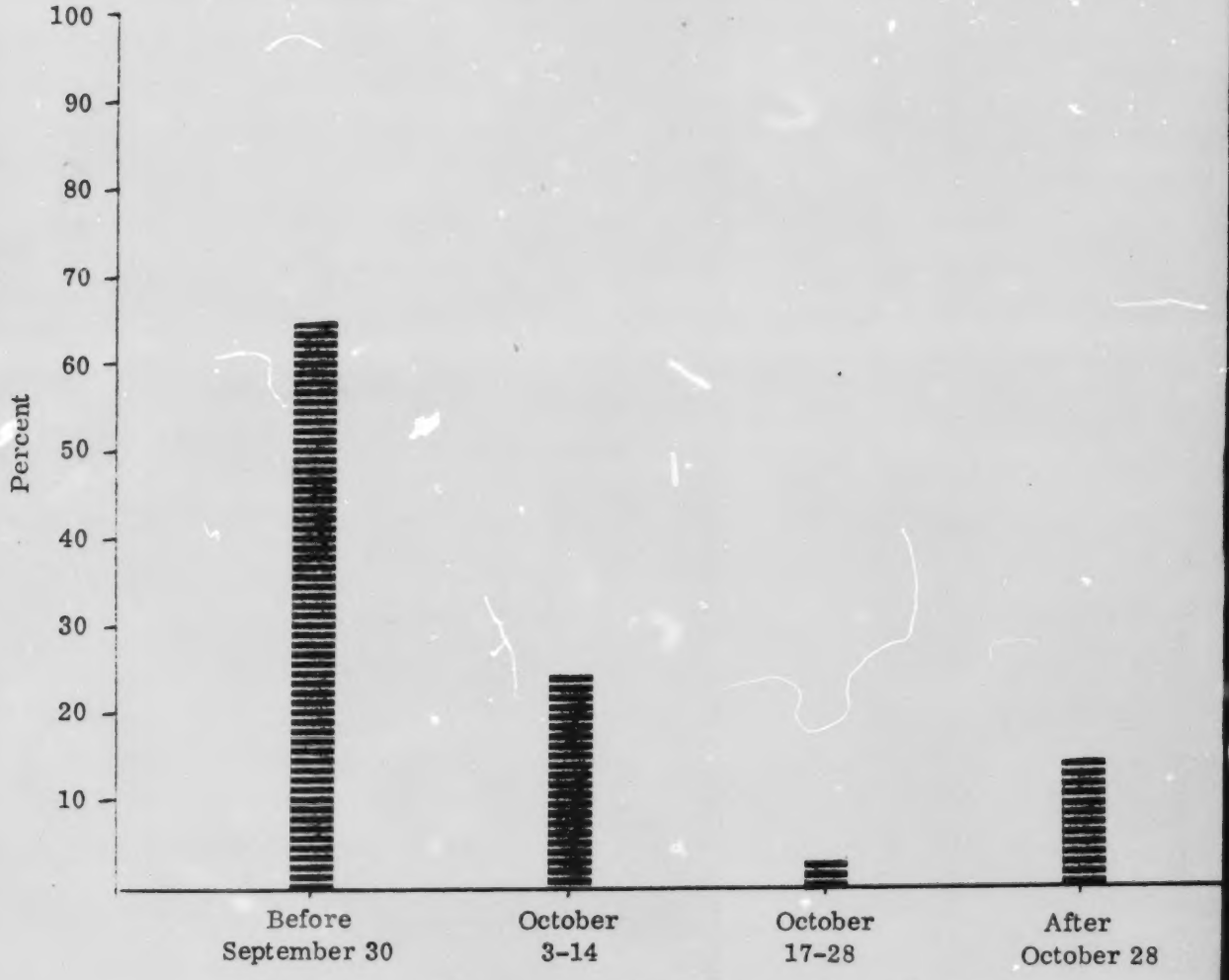

Figure M-5: Starting Dates for Middle School Students

IN-SERVICE OBJECTIVES - TEACHERS

Objectives

(a) to understand the purpose of reading performance objectives
(b) to diagnose student instructional needs
(c) to learn to use materials
(d) to learn the techniques of individualizing instruction
(e) to learn how to plan effective individual daily lessons
(f) to share successful teaching techniques and teacher-made materials

Findings

In-service objectives were met to a limited degree because of restrictions on in-service time imposed on the Title I program by the central school administration. Orientation was held to one day, instead of the three planned. Permission was eventually received to hold a training session in January. However, the severe weather conditions of the winter forced delay of the training until April. Half day sessions were held for each of three groups of teachers and aides. The instruction focused on motivation techniques and reading in the content areas. A guide correlating instruction with appropriate materials and directions for developing study guides were also presented. In general, the workshop was well received and rated as helpful, practical, and interesting.

Discussion

Orientation

As noted, restrictions imposed on the Title I Department limited the orientation to one day. Teachers and aides were separated into two groups - experienced and new to Title I. The experienced teachers discussed new elements and diagnostic procedures; the new teachers were introduced to the Title I instructional process. The orientation was considered satisfactory, in general; though some new teachers indicated a desire for more. Teachers hired later in the program also received orientation during on-site visits.

Due to the decision of the central school administration to limit the time teachers were away from school, the original in-service plans were not implemented and only one half day workshop was permitted. The workshop was conducted by the Assistant Directors, Staff Development. All of the Title I teachers stated that the objectives of the workshop were clear. Seventy percent of the teachers thought the presentation of the topics was excellent, and the remaining teachers rated it as good. All but three of the teachers rated the workshops as helpful. The workshops were very practical in the opinion of 45% of the teachers, while the remaining teachers rated the workshop as practical. All but a few of the teachers thought the workshop was interesting.

The teachers reacted positively to the different aspects of the workshop when asked to select the workshop's strongest feature. However, the motivation strategies and the teacher's exchange of ideas and materials were the major strengths selected by many teachers. Concerning weaknesses of the workshop, some thought teachers had not presented their ideas for exchange adequately. Repetition from previous workshop or too much time spent on the motivation strategies was also mentioned by a few. An extension of the time to interact with teachers and aides was also preferred by some rather than emphasis on theory.

Among the many suggestions for future workshops, teachers were most concerned about further development of the teaching of reading in the content

areas. They wanted to learn about teaching reading in math and science as well as the social studies, as presented at the workshop. Also a joint meeting with content area teachers to discuss reading in the content areas was desired. Most of the other suggestions referred to requests for more ideas about developing materials, and teaching comprehension skills.

IN-SERVICE OBJECTIVE - AIDES

Objective

To enhance the aide's performance in whatever area he/she may be working, using commercial and self-made materials, slides, and group seminars.

Findings

This objective was met to a limited degree, since two training sessions specifically for aides were permitted, though middle school aides were not separated from other aides for the training. (In fact, aides from all Title I programs were grouped together for in-service training.) However, the middle school aides participated in an in-service workshop along with their teachers during the year. Further attention to enhancing aide performance came through a revised and strengthened aide evaluation process.

Discussion

In addition to one day of orientation with teachers, aides were provided a second day of orientation. On the morning of the second day, two ESAA Reading Specialists presented reading and math materials relevant to the classroom. During the afternoon, six experienced aides displayed and reviewed materials they and teachers had prepared. Aides from all programs (i.e., Reading, Math, ESL, and Kindergarten aides) participated.

In May, another full day workshop was presented again for all Title I aides. This workshop focused on innovative methods of teaching reading and was conducted by a University reading specialist.

Middle school aides participated in the April in-service workshop conducted by the Assistant Directors, Staff Development. The workshop focused on motivation strategies, reading in the content areas, and developing study guides. The aides overwhelmingly rated the workshops as interesting, helpful, and practical. Like the teachers, they cited the motivation strategies and exchange of materials and ideas as the strengths of the workshop. Few weaknesses were cited. For future workshops, aides desired to learn more about teaching reading in the content areas.

The Assistant Director of Aides has paid increased attention to aides performance this year by visiting schools, revising aide evaluation procedures, and instituting closer scrutiny of aides' attendance habits. In addition, aides who had not yet been tested with the ABLE reading or math test were required to be tested in the Spring. These data will be used as a needs assessment for planning future training.

It should be noted that the Assistant Director of Aides has responsibility for the evaluation of aides. This has been exercised through the principals and teachers - an expected process since there are over 400 aides in the Title I program. However, the Assistant Director (Middle School Program) and the Assistant Directors, Staff Development are also involved in Title I supervision and have the opportunity to observe the aide's work. Thus, these personnel also bring problems to the attention of the Assistant Director of Aides which may require her attention.

PARENTAL INVOLVEMENT OBJECTIVES

Objectives

(a) to form a local Parent Advisory Council in each school
(b) to elect representatives to the City-wide Parent Advisory Council from District PAC's
(c) to establish a functioning City-wide Parent Advisory Council

Findings

Of the 26 middle schools in the program, 15 have established local Parent Advisory Councils (PAC's). According to Community Relations Department records, almost all were formed before January, and little progress was made in PAC development during the second half of the year. District PAC's were formed in mid-November, to which delegates from the local PAC's were elected. From the District PAC's a City-wide PAC (CWPAC) was elected at the end of November. The CWPAC consists of 67 members, six of whom are middle school delegates and five of whom were alternates. (Elementary and high school delegates complete the CWPAC.)

Discussion

Local PAC's

While overall more than half the PAC's have been formed, among the public middle schools, only eight of the 19 schools have complete PAC's (minimum of five members), and one (Timilty) has an incomplete PAC. On the other hand, six of the seven parochial schools (which are also part of the elementary program) have complete local PAC's. The following middle schools remain without PAC's:

District I: Mead, Taft

District II: Lewis, Roosevelt

District V: Holmes, Wilson

District VI: Dearborn, St. John (Rox)

District IX: King, Mackey, Wheatley

A cause for concern is the fact that only several principals were satisfied with the efforts of the Community Liaison Aides (CLA's) or Community Relations Assistants (CRA's) in forming local PAC's. However, because over 60% of the parents responding indicated some knowledge of the PAC and its role in the program, and had been contacted about the PAC, there is hope for improved response to PAC development. It appears that stronger efforts by CLA's and CRA's coupled with the support of each school's administration might make a difference in local PAC formation.

Because the PAC activities cut across all of the components of the Title I program except the NIE project, the remaining discussion of District and City-wide PAC development and Community Relations Department efforts and evaluation of other parental involvement objectives is the same as that presented in the Elementary component, with specific references to middle schools included where necessary.

District PAC

All District PAC's have been formed as reported above. Each middle school local PAC formed has at least one delegate elected to the District PAC and most have alternates as well.

District PAC members reported that District PAC meetings were held frequently enough. They also reported that they received necessary information about the CWPAC activities.

City-wide PAC

On the average, nearly half of the CWPAC members attended meetings. There appears to be a concentration of representation from only selected areas of the city, generally corresponding to the same areas represented by the officers. It should be noted that the racial composition of the officers is not representative of the Title I student population. It was also reported by several members that there was some dissension among CWPAC members.

There was a surprisingly low return of evaluation questionnaires (14 members or 15%) that may be indicative of the attitude and involvement of CWPAC members. However, those that responded were generally satisfied with its advisory role, as were the officers who also reported that the administration was responsive to their input.

Community Relations Department

The Community Relations Department was reorganized this year to consist of two Community Relations Assistants (CRA's) and 12 Community Liaison Aides (CLA's) working in cooperation with the Associate and Assistant Directors, with one Assistant Director assigned principal liaison duties. The Community Relations Department was responsible for all PAC activities across all Title I programs, except the NIE project.

The coordination and support of the CLA's activities was the responsibility of the CRA's. The Assistant Director of Aides was responsible for evaluation and hiring decisions. CLA activity was accountable through CLA weekly logs and daily telephone confirmations, though no systematic verification of CLA activity was made. The Assistant Directors did meet periodically with CLA's assigned to schools for which they were responsible to review PAC activities. However, their principal efforts focused on reimbursement of expenses to parents for attendance at local PAC meetings - a formidable task in and of itself. The Assistant Director serving as liaison also met with the CLA's and CRA's weekly to review progress. At the end of the year, principals of schools to which CLA's were assigned did submit format evaluations of the CLA's. This evaluation process was under the direction of the Assistant Director of Aides, who also met with CLA's two or three times during the year.

Concerning the support received from the CRA's, CLA's generally rated their assistance favorably, and indicated that the CRA's attended PAC meetings with them as much as possible. Both CRA's and CLA's indicated that the Assistant Director serving as liaison to the department was supportive.

According to a summary of CRA activities (provided by only one of the CRA's) and from interviews with the CRA's, their principal duties were: assisting in preparation of letters, requests, and the like for CLA's, assisting CLA's in planning and scheduling PAC meetings, attendance at and preparation

for district and city-wide PAC meetings, and attendance at sub-committee meetings. Noticeably absent from their duties were formal training of CLA's on conducting meetings, community organization procedures, and Title I regulations and guidelines, and any formal supervision of CLA performance in the field.

Objectives

(d) to provide members of the CWPAC technical assistance regarding Federal and State regulations and the operational components of the programs
(e) to increase parental knowledge of the programs, volunteers from local PAC's and the CWPAC will visit a limited number of Title I Schools
(f) to continue parental involvement, volunteer parents will serve on sub-committees on Assessment of Needs, and on each of the components in the FY 79 Project Application.

Findings

CWPAC members and officers were provided technical assistance by an Assistant Director assigned to serve as liaison and the Community Relations Assistants. Twenty-eight volunteers from the local and CWPAC (including Research and Evaluation sub-committee members) visited 35 schools during the year. Further, six sub-committees with a total of 29 parents were formed: By-laws, Budget, Election, Language Arts, Planning, and Research and Evaluation.

Discussion

PAC officers and CWPAC members who responded indicated satisfaction with the technical assistance efforts of the Title I staff, and the responsiveness of the administration. The majority noted they had access to official documents and copies of PAC guidelines.

The rosters of the six sub-committees made up of volunteer parents contain a total of 91 names, with committees ranging from 8-24 members. However, many parents serve on more than one committee. For example, only six members serve on one committee, alone. Ten members serve on two committees, one on three committees, one on four committees, six members on five committees, and five members on six committees. Thus, volunteer participation on these committees was limited to a total of 29 parents, of which only one parent was from a public middle school and two parents from a parochial middle (and elementary) school. However, the visiting committee did result in 10 more parents becoming involved in the parent visits to the Title I schools.

The Research and Evaluation sub-committee working with the Associate Director for Title I Evaluation and assisted by the CLA's, conducted a needs assessment survey of Title I parents. This survey generated data from over 7000 parents, and the parents on this committee worked diligently in the sampling process and tabulation of the data.

RELATED ISSUES

At the beginning of the evaluation, the Title I administrators requested that several issues related to the evaluation be examined. These were: needed changes in administration and supervision, examination of record keeping, alternatives to the pull-out model, use of the performance objectives, and reorganization of the Community Relations Department. These issues have been discussed in the appropriate sections of this report. (In addition, a detailed review of pull-out and alternative methods was presented in a memo of February 14, 1978.)

The evaluation RFP requested that the evaluators examine whether overlap existed between Title I and other supplementary programs in Boston. Principals were asked to indicate which programs overlapped and the extent of such overlap. Only two of 26 principals responding reported any overlap. Both schools were unidentified. In one school the ESAA project overlapped with Title I; in the second school, it was a CH636 project. The principals did not elaborate on the extent of the overlap.

SUMMARY OF FINDINGS

The Middle School Reading Program was in its third year of full operation. Approximately 2,000 students were served in 26 middle schools by 48 teachers and aides. Each teacher and aide team worked daily with 40 students in groups of eight. The program was based on an individualized diagnostic model similar to the elementary program.

Gains in reading were very large. In terms of grade equivalent score, students equaled or exceeded the norm rate of gain. On the average, students also advanced in percentile standing between pretest and posttest.

As in the case of the Elementary program, in-service objectives were met only to a limited degree because of restrictions on in-service time imposed on the Title I Department. Orientation was reduced to one day from the three planned, and one in-service session, which was well received by participating teachers and aides, was held during the year. Aides participated in two other training sessions as noted in the Elementary program - the first focusing on reviewing materials and the second a reading workshop.

The establishment of local PAC's was not as successful at the middle school level as at the elementary. PAC's were formed at only 15 of the 26 middle schools in the program. Problems concerning the operation of the Community Relations Department noted for the Elementary program apply also to this component.

Only two cases of overlap between the Title I program and other federal or state funded supplementary programs were found.

In general, the program was successfully implemented. Administration and supervision were well received, as was the in-service session provided. Other positive features included adequate materials and supply, high morale, successful operation of the NCEC labs, appropriate student identification and diagnostic procedures, use of teacher aides, and improved student attendance.

Problem areas included the discontinuance of the program at the T. Roosevelt school due to personnel problems, limited communication and coordination between Title I teachers and classroom teachers, scheduling difficulties, and poor communication with parents. Other issues, noted previously, were the performance of the Community Relations Department and the limited orientation and in-service training. In addition facilities were generally rated only as fair.

RECOMMENDATIONS

Provide increased initial support to new Title I teachers either on-site or in a group setting.

Continue efforts to increase communication between Title I teachers and classroom teachers. Impress upon the principals the importance of encouraging such communication in their building, utilizing the sufficient time available in planning and administrative periods.

Conduct regular in-service throughout the year based on the identified needs of the teachers and including some time in each for the sharing of ideas and materials.

Continue efforts to upgrade facilities, impressing on school administrators the importance of an appropriate setting for effective remediation.

Pilot test other approaches to providing remedial instruction at the middle school level (e.g., pairing a Title I teacher with a content area teacher, scheduling students specifically into Title I reading for credit, providing Title I instruction after school, experimenting with school schedules to permit an "extra" remedial/activity period.)

Identify a more appropriate test for administration in the Jackson-Mann Program.

Provide in-service training for middle school content area teachers on Title I guidelines, reading instruction and reading in the content areas.

Increase supervision of NCEC Labs by the Assistant Directors, Staff Development.

Provide NCEC Lab teachers with opportunities to meet to share ideas and review Lab techniques.

Provide a traditional non-Lab alternative in Lab schools to accommodate those students for whom the Lab process is not suitable.

Re-examine the need for interim attendance reports and performance objective summary sheets and final performance objective summary sheets. Eliminate this paperwork if it is determined to be unnecessary.

Continue efforts to increase parental communication, focusing on the initiation of personal contact between teachers and parents.

Establish a committee of Title I administrators and teachers to establish consistent procedures for use of either the performance objectives or the Skill Profile Chart as an instructional management tool.

Develop plans for utilization of the system's computer capabilities for record keeping and selection requirements.

Select program participants in the Spring utilizing teacher judgements as weighted factors on the selection checklist, and taking advantage of the system's computer facilities for lists of students' scores.

Intensify CRA and CLA efforts on those schools which have not yet formed PAC's.

Concentrate efforts of Community Relations staff on increasing the number of middle school parents serving on sub-committees.

Develop and disseminate a written policy concerning the priority of Title I services and the need to avoid duplication with other supplementary programs. Alert Title I teachers to report to Title I administrators any suspected overlap of services.

Consider expanding the role of the Community Relations Department beyond the establishment of Councils to the broader involvement of parents in the program.

Provide more than one day of orientation for new Title I teachers and aides.

Focus in-service training for aides on their specific identified needs within the Middle School program.

Increase the interaction between the Assistant Directors, Administration and Staff Development, and the Assistant Director of Aides concerning supervision and evaluation of aides.

Assign direct responsibility for CLA activities to CRA's who should monitor and evaluate their performance.

Institute specific training for CLA's by the CRA's on conducting effective meetings, community organization procedures, Title I guidelines, and the preparation of letters, invitations, and the like.

Assign direct responsibility for CRA to the Assistant Directors, Administration who should monitor and evaluate their performance.

NIE DEMONSTRATION PROJECT

INTRODUCTION

In the Fall of 1975, the Boston Public Schools initiated a special project funded by the National Institute of Education (NIE). NIE had instituted six major studies of issues in compensatory education ranging from examination of current practices to the study of laws and regulations. Boston was awarded funds to participate in the study dealing with the effects of changing the manner in which Title I funds are allocated within school districts. The 1975-76 school year was devoted to substantial planning efforts which involved parents, federal and state education officials, school department personnel and community agencies. During 1976-1977, the instructional program was implemented, and it continued in school year 1977-78. Funding for the implementation of the Demonstration Project was divided between NIE and Title I monies. The total budget was approximately $283,000, with $207,000 derived from the Title I allocation to the school system, and $76,609 provided by NIE. In effect, the school system's Title I funds supported the instructional aspects of the program, while the NIE funds supported the administrative and research requirements.

Nine teachers served approximately 400 children in grades 1-5 in nine schools--seven public and two parochial. The schools--Adams, Beethoven, Bunker Hill, Lee, Murphy, Sumner, Winship, St. Angela, and Sacred Heart--were identified from those not selected for Title I services. The schools selected

were determined to have the highest need based upon deficiency in reading achievement. In contrast to the prescribed Title I selection procedures based upon low-income and welfare incidence, three new indexes were used to rank and select the schools: the number of students reading below grade level, the percentage of students reading below grade level, and the severity of the reading deficiency in each school.

Instruction followed the model of the Elementary Enrichment Project, with some variations. Students were served by a teacher and an aide in groups of seven in six 45 minute periods. The instruction was highly individualized using the SWRL/Ginn Reading Placement Aid for placement, a modified Individual Prescriptive Work Plan for planning, and the Ginn Communication Skills Program as basic instructional materials.

The project was administered by a project director (acting assistant director). The director was assisted by an acting supervisor, principally responsible for supervision of instruction, and a community field coordinator and two project aides who were responsible for parental involvement in the NIE demonstration schools.

TERMINAL INSTRUCTIONAL OBJECTIVE

Objective

Students who participate in the Title I NIE Program will demonstrate a reduction of reading deficiency as measured by pre-post standardized reading tests on the Metropolitan Achievement Tests. The growth anticipated as the terminal measure is a grade equivalent increase of at least .7 months per month of instruction.

Findings

Based on the results of the Metropolitan Achievement Tests administered as pre- and posttests, the NIE program students exceeded the specified criterion in grades 2 and 4. Students in grade 2 gained 1.0 month in G. E. score in Total Reading per month of instruction, and students in grade 4 gained .9 months. In grade 5, students equalled the .7 projected rate, while students in grade 3 did not attain it, on the average gaining only .4 months per month in Total Reading. (See Table N-1.)

Examination of percentile scores provides a slightly different view of student achievement. Students in grades 2 and 4 made the largest percentile gain between pre- and posttest confirming the grade equivalent results. However, on the average, grade 3 students also advanced in percentile standing, though their gain in G. E. score was small. On the other hand, grade 5 students were not able to maintain their relative standing in the national norms and the declined slightly in percentile rank. (See Table N-2)

Discussion

Product

Children participating in the NIE program were administered the Reading subtests of the Metropolitan Achievement Tests in October and May. Gains from pre- to posttest for students in grades 2-5 were analyzed by means of a t-test for correlated data to determine statistical significance. The results of these tests are summarized in Tables 1D to 3D in Appendix D. All gains in standard score units for each subtest, at all grade levels were statistically significant. (Posttests only were administered to grade 1 students and their mean standard scores are also presented in these tables.)

Average grade equivalent scores in Total Reading corresponding to the mean standard scores are presented in Table N-1 and are graphically shown in Figure N-1. (Grade equivalent scores for the Reading subtests are shown in Tables 4D and 5D of Appendix D.) In grade 2, students in the NIE program demonstrated seven months G. E. gain in Total Reading during the period between pretest and posttest. On the average, these students gained one month in G. E. score for each month of instruction. Gains by students in the other grades showed slightly slower G. E. gains from October to May. Students in grade 3 gained three months in G. E., while grades 4 and 5 students in the NIE program showed gains of .6 and .5 G. E. units, respectively, in Total Reading from pre- to posttesting. (As noted in the Elementary report, the low gain for grade 3 students may be related to the shift from Primary II

Table N-1

Summary of Mean Grade Equivalent Scores
NIE Program - Total Reading

Grade	Pretest G. E. Mean	Posttest G. E. Mean	Mean G. E. Gain	Monthly Gain Rate
1	-	1.9	-	-
2	1.9	2.6	0.7	1.0
3	2.4	2.7	0.3	.4
4	3.0	3.6	0.6	.9
5	3.6	4.1	0.5	.7

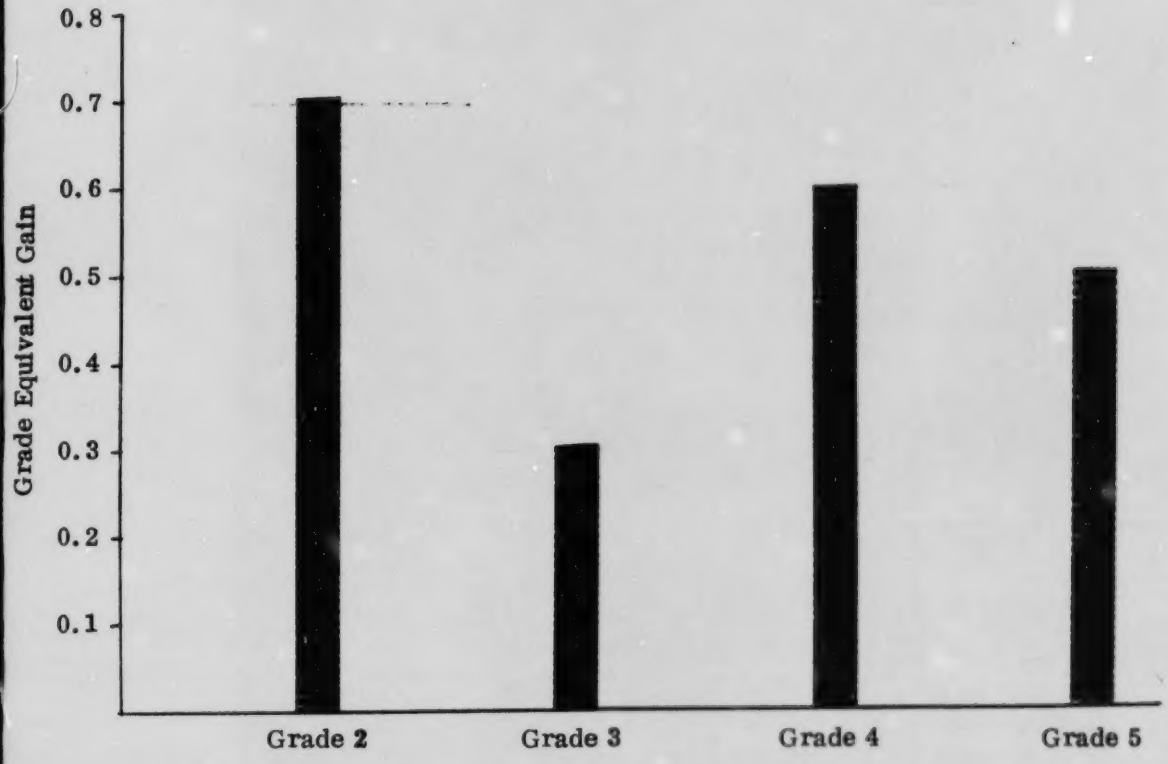

Figure N-1: Summary of Grade Equivalent Gains in Total Reading
NIE Program Students - Grades 2-5

at pretest to the Elementary level of the test at posttest time. On the average, grade 3 students gained .4 months per month of instruction in Total Reading, and students in grades 4 and 5 gained at the rate of .9 and .7 months per month of instruction in Total Reading during the seven month period from October to May testings.

Grade 1 students on the posttest averaged approximately one month above grade level in Total Reading. In Word Knowledge first grade students averaged two months above grade level while for the Reading subtest, they scored approximately one month below grade level.

Another perspective on the achievement of the NIE program students is provided by the mean percentile rank and NCE scores in Total Reading for each grade, shown in Table N-2. An increase in the percentile standing from pre- to posttest would indicate that the students were achieving more than they had in the past. That is, they would have moved up in standing with respect to their norm group. As the table shows, the children entered the program well below the average (50th percentile). Pretest means in Total Reading averaged from the 20th to the 34th percentile. While the posttest means still remained below the median nationwide, in all grades, but grade 5, students did show a faster rate of achievement in Total Reading. (These results are graphically presented in Figure N-2.)

Table N-2

Summary of Mean Percentile and NCE Scores
NIE Program - Total Reading

	Percentile			NCE		
Grade	Pre	Post	Gain	Pre	Post	Gain
1	-	50	-	-	50.0	0
2	34	48	14	41.3	48.9	7.6
3	22	24	2	33.7	35.1	2.6
4	24	28	4	35.1	37.7	2.6
5	20	18	-2	32.3	30.7	-2.4

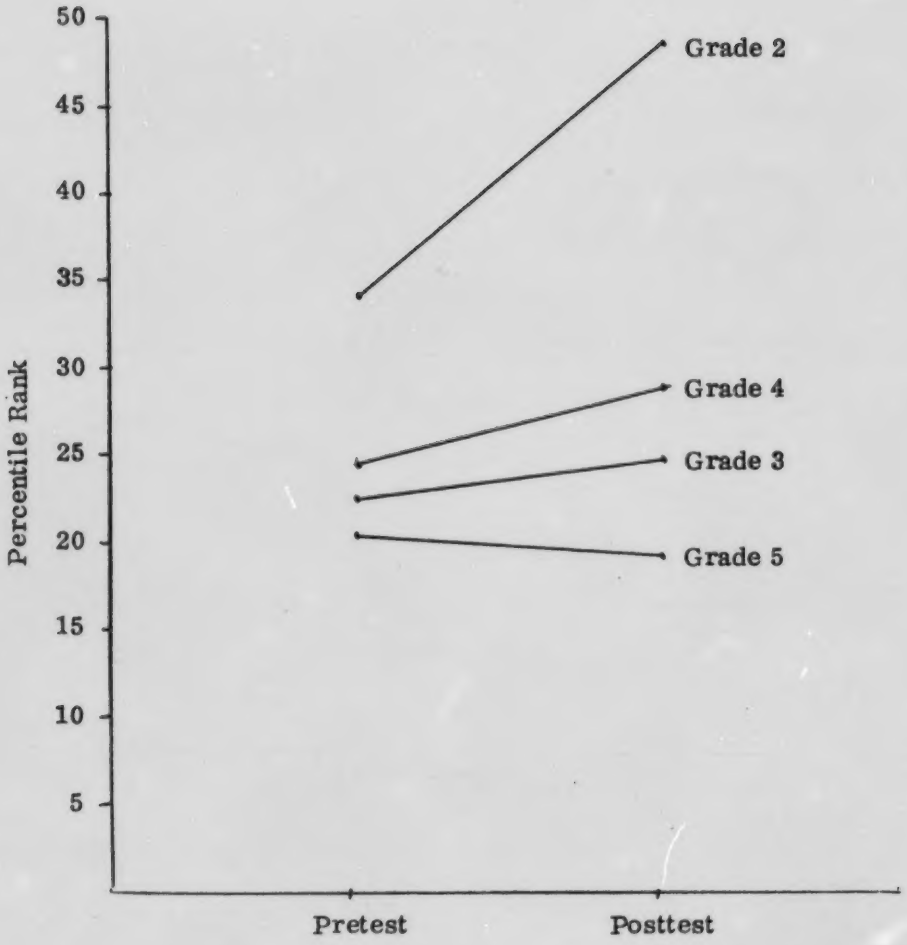

Figure N-2: Gains in Percentile Rank in Total Reading for Grades 2-5 - NIE Program

Another view of the impact is gained from examination of the NCE scores for Total Reading also presented in Table N-2. (See Tables 6D and 7D in Appendix D for the Word Knowledge and Reading subtests.) (The reader is referred to page 16 of the Elementary report for a discussion of the distribution and interpretation of NCE scores.)

The NCE score results shown in Table N-2 correspond to the results shown by the percentile scores in Total Reading. Positive NCE gains in Total Reading were found for all grades except for students in grade 5. These results confirm the positive effects of the students' participation in the Title I program for grades 2-4.

(Achievement of specific reading performance objectives as rated by teachers was tabulated for a sample of 554 students. These results are presented in Appendix F under separate cover.)

Process

Discussed below is a summary of the evaluation of those inputs and operational processes related to the proper functioning of the Title I Program and the attainment of its reading and math product objectives. Included are: administration and supervision, communication, facilities, objectives, New Century Reading Laboratory, parental communication, student evaluation, teacher aides, time, and value perceived by others. This discussion is based on site visits to Title I classrooms, and personal interviews and/or questionnaires administered to administrators, supervisors, Title I teachers, principals, classroom teachers, and parents.

Administration and Supervision. Title I teachers and principals understood the program's goals and the unique characteristics of the N. I. E. project. The organization was responsive to Title I teachers' needs. Principals were kept informed and indicated that cooperation and communication with Title I administration was satisfactory.

The administration also provided adequate supervision to the Title I teachers with only a few of the teachers seeking more specific help in establishing their programs.

Communication. Communication between the NIE teachers and classroom teachers was not impeded by the pull-out system according to most NIE teachers, and communication was considered good throughout the year. Classroom teachers

and principals agreed, and felt that, in general, there was no substantial interference by the Title I program with regular classroom activities.

Since the N. I. E. teachers had no in-service training sessions, they were concerned about communication with the other N. I. E. teachers and the exchange of ideas, materials and methods. (The limitations on in-service imposed on the program are discussed later in the report.)

Facilities. Teachers rated their instructional environment positively. A general description of the teaching environment was: a quiet, spacious classroom having accommodations for more than one group, with moveable seats and good material storage space. Lighting and temperature, including humidity level, were good. (Lighting was poor in only one situation.)

Instruction. The Ginn Communication Skills Program served as the basis of instruction. Learning needs for each child were identified by most N. I. E. teachers with individual instructional sequences planned for the child using an individualized lesson plan. The student/teacher ratio was considered appropriate, so that all N. I. E. teachers conducted small group or one-to-one instruction, generally in coordination with the classroom teachers.

During observations, N. I. E. classes for the most part consisted of the use of workbooks and worksheets, oral and silent reading, skill instruction, and some time spent questioning students. Aides spent time tutoring and directing students on worksheets and answering questions of students.

Materials. Both the quantity and quality of materials were approved by most N. I. E. teachers. N. I. E. teachers were disappointed only with the lack of opportunity to share materials prepared by other Title I teachers.

Morale. The N. I. E. teachers were an integral part of the faculty according to their own perceptions and those of the principals. Morale was high among N. I. E. teachers who reported that they were confident of their own qualifications and abilities. They felt that they were accomplishing something worthwhile and generally enjoyed working in the program.

Objectives. The N. I. E. staff, classroom teachers and principals clearly understood the objectives of the N. I. E. program, and only a few of the classroom teachers were concerned whether the program meet the needs of the students.

All teachers reported using both the performance objectives and Skill Profile Chart for planning instruction and evaluating students. In interviews, however, the N. I. E. teachers reported that they preferred to use the Skill Profile Chart only as a reference tool and to utilize the performance objectives in daily planning. One teacher did note that the performance objectives also came to be used as a reference as the teacher became familiar with the criteria.

Parental Communication. The low level of interest by parents of the children in the program was a concern to one-half of the teachers. Although the reporting of student progress was generally considered satisfactory for

teacher and parent, few parents, on the average, personally consulted with the teachers. Parent interest was stronger when teachers contacted them on specific problems.

Student Evaluation. In general, student selection did include those most in need of help as reported by N. I. E. teachers, classroom teachers and principals. Diagnostic tests and devices available were considered adequate by most N. I. E. teachers.

Teacher Aides. In general, the aides' morale was high. Aides felt they worked well with students. Rapport between the N. I. E. teachers and the aides was satisfactory for both parties. The N. I. E. teachers generally utilized the aides in an instructional capacity and had specific assignments for them. Their presence in the classroom was reported to increase the individualization of instruction.

Although most aides understood their role in the Title I program and they were confident of their ability to handle the responsibilities of their job, the aides reported they would welcome instruction to improve their role. Further, although their services were used effectively, the aides felt teachers should have more information regarding the aides' role in the program.

Time. According to N. I. E. teachers, they did not have enough time for required paperwork and instructional planning. On the average, N. I. E. teachers reported having 30 minutes available for planning and paperwork.

Value Perceived by Others. Both principals and classroom teachers were satisfied with the work of N. I. E. teachers. Their efforts resulted in the recommendation by both groups to continue the program next year.

Program Initiation and Attendance. The typical starting date (obtained for a sample of 176 students selected randomly from student records for NIE school students was September 26. As shown in Figure N-3, 93% of the students were enrolled in the program by the middle of October. Only 4% of the students began after October 28. The average attendance rate for NIE students was 76%.

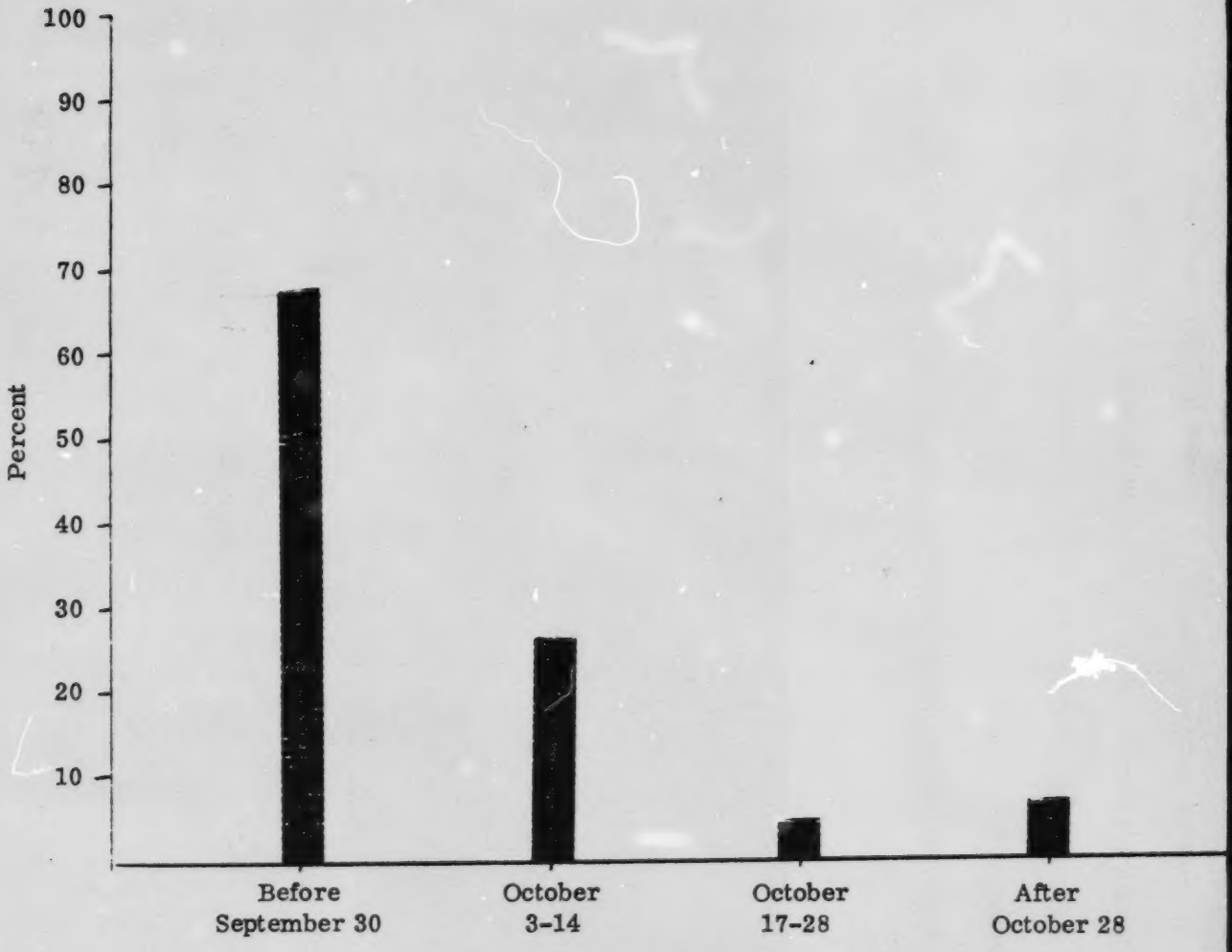

Figure N-3: Starting Dates for NIE Reading Students

IN-SERVICE OBJECTIVES

Objectives

Teachers will

(a) demonstrate understanding of Title I guidelines.
(b) demonstrate understanding of the N. I. E. project.
(c) implement the N. I. E. Reading Performance Objectives properly
(d) cooperate with research data collection.
(e) diagnose pupils' needs in reading.
(f) develop effective teaching techniques.
(g) utilize instructional materials properly.
(h) share ideas with other N. I. E. teachers.

as indicated by responses to specially prepared questionnaires, interviews and observation.

Findings

Limitations on in-service time restricted the attainment of the in-service objectives. The three day orientation with a one-day follow-up was not implemented as proposed. Instead, orientation was reduced to one full day because a restriction on teachers leaving their schools was imposed on the N. I. E. project by the central office administration. Both experienced and inexperienced (new to Title I) teachers and aides participated in the session which reviewed Title I and N. I. E. guidelines and use of the Communication Skills Program. Follow-up orientation for the five new teachers was provided on-site by the N. I. E. administrators. The in-service sessions scheduled for October and February were not conducted due to the restriction noted above. A summary (evaluation) session was held in May.

Discussion

Despite the abbreviated orientation, most of the N. I. E. teachers were satisfied. One dissatisfied new teacher noted: "I consider the time spent with new teachers in introducing and orientating the materials to be insufficient. I feel that the materials should have been demonstrated in full." The N. I. E.

administrators also recognized the inadequacy of the orientation for the new teachers. All aides indicated satisfaction with their orientation. Some in-service was attempted through on-site visits and the supervision process. However, the lack of opportunity to share ideas and materials was felt strongly by the N. I. E. teachers.

PARENT INVOLVEMENT OBJECTIVES

Objectives

1. Parents will form a Parent Advisory Council in each N. I. E. Demonstration Project school.
   a) Each PAC will meet on the average of once per month during the school year.
   b) Local PAC's will participate in the planning and future implementation of the N. I. E. Demonstration Project by making recommendations to the N. I. E. administrators as evidenced in PAC meeting minutes.

2. Parents will participate in the evaluation of the N. I. E. Demonstration Project through a visit to a sample of N. I. E. Project schools.

3. Parents will demonstrate knowledge and understanding of basic governing regulations and operational procedures of Boston's Title I program as indicated in their responses to questionnaires.

Findings

A local Parent Advisory Council (PAC) was established at each N. I. E. project school. For the most part, the local PAC's met at least once each month since October to review aspects of the N. I. E. study and Title I project. The N. I. E. administrators met with each local PAC to explain Title I in general and the N. I. E. study and Demonstration Project in particular and to receive input on the N. I. E. project. A visiting committee of parents visited two of the N. I. E. schools in the Spring.

Discussion

The community relations staff of the N. I. E. Project consisted of the Community Field Coordinator and two project aides. These staff were assigned space at the Lee School, which helped in the performance of their clerical and community liaison functions necessary for successful PAC development.

As noted above, the Community Field Coordinator and project aides were able to form PAC's in all nine schools. Attendance at PAC meetings was good and staff reported a problem at only one school which they attributed to the distance parents had to travel for meetings.

Parents were kept informed of the guidelines for and activities of the N. I. E. Demonstration Project at meetings by the N. I. E. administrators and N. I. E. community relations staff. Project aides also assisted in the dissemination of information on City-wide PAC activities. There was only one delegate and alternative on the CWPAC who represented the interests of the N. I. E. project. These parents also reported on the CWPAC activities. Dissemination occurred not only at meetings but through a bulletin including CWPAC minutes sent to each member of the local PAC's.

Visits to the N. I. E. schools were integrated into the plan for visits to elementary and middle schools. However, only two of the N. I. E. schools were selected for visits and only one parent from the N. I. E. schools was on the committee.

Two-thirds of the parents in N. I. E. schools reported they knew of the PAC. However, only half of them indicated the PAC had contacted them or that they knew of the PAC's role, despite the activities of the community relations staff.

RELATED ISSUES

The evaluation RFP requested that the evaluators examine whether overlap existed between Title I and other supplementary programs in Boston. Principals were asked to indicate which programs overlapped and the extent of such overlap. There was no overlap reported for the schools in the N. I. E. Demonstration Project.

SUMMARY OF FINDINGS

The Boston Public Schools served as a site for a special demonstration project of the National Institute of Education (NIE). This was the third and final year of the project. The first year was devoted to planning. During the second and third years, the instructional program was implemented. The intent of the demonstration project was to test new procedures for selecting Title I schools based upon educational need as opposed to economic indexes. Nine teachers and aides served approximately 400 students in seven schools, following the model of reading instruction in the Elementary program.

Gains in reading were mixed across the grades. Students in grades 2 and 4 exceeded the project grade equivalent score, while students in grade 5 equalled the projected rate and students in grade 3 fell below it. However, in terms of percentile scores, students in grades 2, 3, and 4 advanced in percentile standing between pretest and posttest. Students in grade 5 did not maintain their relative standing in the national norms and declined slightly in percentile rank.

As in the other Title I components, restrictions were imposed by central school administration on teacher in-service time. Therefore, only one day of orientation was conducted and no in-service was held for the Title I NIE teachers.

The NIE component successfully attained its parent involvement objectives due to the efforts of its own community relations staff. Local PAC's were formed in each school, and these PAC's remained active throughout the year.

The program was well planned and successfully implemented. The close knit staff worked together to monitor program operations and eliminate problems as they arose. Such operational factors as administration, supervision, facilities, materials, morale, etc. were judged to be satisfactory. Problem areas included parental communication, time for paperwork and planning, and student attendance.

No overlap between the Title I NIE project and other supplementary programs was reported.

RECOMMENDATIONS

This year completes the second operational year and final year of the N. I. E. Demonstration Study, as scheduled. The N. I. E. schools will no longer be eligible for Title I services under the waiver which permitted their inclusion based on the educational need criterion being tested. Two of the nine N. I. E. schools will be able to continue in the Title I Program next year under traditional eligibility rules. For this reason, no specific recommendations are made for the N. I. E. Project, and the reader is referred to the recommendations for conducting the Elementary projects made earlier in the report.

LANGUAGE ARTS PROGRAM

INTRODUCTION

The Title I Language Arts Program in the elementary and middle schools was funded under Part B of Title I for special incentive grants. The program was implemented at the beginning of December in 22 schools: 14 elementary and 8 middle. Twenty-seven teachers served over 1300 students in grades 4-8. The program was designed to extend Title I services principally to eligible Title I schools not served in the Title I Reading program, and to pilot test an innovative language arts approach to remediation. Of the 14 elementary schools in the program 10 were not included in the Title I Reading program; in the case of the middle schools, all but one were new schools.

The instructional program was based on a language arts curriculum developed by the Boston Public Schools and clearly delineated for teachers in a series of curriculum guides. Topics included developing sentence sense, organizing and expressing thoughts logically, developing different kinds of written paragraphs, extending the paragraph concept in narration and the like. Students were served in groups of 10 in daily 45 minute periods.

TERMINAL INSTRUCTIONAL OBJECTIVE

Students who participate in the Title I Language Arts Program will demonstrate a reduction in language arts deficiency as measured by pre-post standardized language arts tests of the California Achievement Tests. The growth anticipated as the terminal measure is a grade equivalent increase of at least .7 months per month of instruction.

Findings

Based on pre- and posttesting with the language arts subtests of the California Achievement Tests, students at all grade levels exceeded the specified criterion of .7 months per month of instruction. Grade equivalent gains for the participants as a group ranged from eight to fourteen months over the four month interval between pre- and posttests. Gain rates far exceeded the norm rate of 1.0 at all grade levels ranging from 2.0 to 3.5 G.E. months per month of instruction. Students at each grade level also advanced in percentile standing, gaining from six to twenty-five percentile points.

Discussion

Product

The Language Arts subtests of the California Achievement Tests were administered in January and May to students receiving instruction in language arts. The results of the statistical analyses used to compare pretest to posttest

changes are summarized in Tables 1E to 3E of Appendix E. (Statistical analyses were performed by the test publisher.) In general, the gains were statistically significant with some exceptions, particularly where the groups were small. Gains were not statistically significant for parochial school students in grades 4, 5, 6, and 7 on the Language Usage and Structure test, and in grades 5 and 6 on Total Language. Gains were not significant for public school students in grade 6 on Language Usage and Structure Test. (The t values for parochial school students in grades 5 and 6 in Language Mechanics were not computed by the test publisher because the number of matched cases was less than 10.)

A summary of the mean grade equivalent scores in Total Language corresponding to the mean Achievement Development Scale Scores (Standard Scores) used in the statistical analyses is presented in Table L-1. The results are shown separately for grades 3-8 in the public schools and grades 4-8 in the parochial schools, and for grades 4-8 for all participants combined. (Grade equivalent scores for each grade and group on each of the language arts subtests are presented in Tables 4E and 5E in Appendix E.) Grade equivalent gains in Total Language are graphically presented in Figure L-1 for each group and grade.

Large gains in grade equivalent were demonstrated by the students at each grade level in both public and parochial settings. The gains greatly exceeded thos projected for the four months of instruction between pre- and posttesting. The average monthly gain rates ranged from 1.3 to 3.5 months in G.E. score

Table L-1

Summary of Mean Grade Equivalent Scores in
Language Arts on the California Achievement Tests
Total Language

Group	Pretest G. E. Mean	Posttest G. E. Mean	Mean G. E. Gain	Monthly Gain Rate
		Grade 3		
Public Schools	2.4	3.2	0.8	2.0
		Grade 4		
Public Schools	2.9	3.9	0.9	2.3
Parochial Schools	3.7	4.5	0.8	2.0
All Participants	3.0	3.8	0.8	2.0
		Grade 5		
Public Schools	3.5	4.7	1.2	3.0
Parochial Schools	5.1	5.6	0.5	1.3
All Participants	3.5	4.7	1.2	3.0
		Grade 6		
Public Schools	3.4	4.1	0.7	1.8
Parochial Schools	6.3	7.0	0.7	1.8
All Participants	3.5	4.3	0.8	2.0
		Grade 7		
Public Schools	4.1	5.4	1.3	3.3
Parochial Schools	5.0	6.1	1.1	2.8
All Participants	4.4	5.6	0.8	2.0
		Grade 8		
Public Schools	4.5	5.9	1.4	3.5
Parochial Schools	6.5	7.8	1.3	3.3
All Participants	5.1	6.5	1.4	3.5

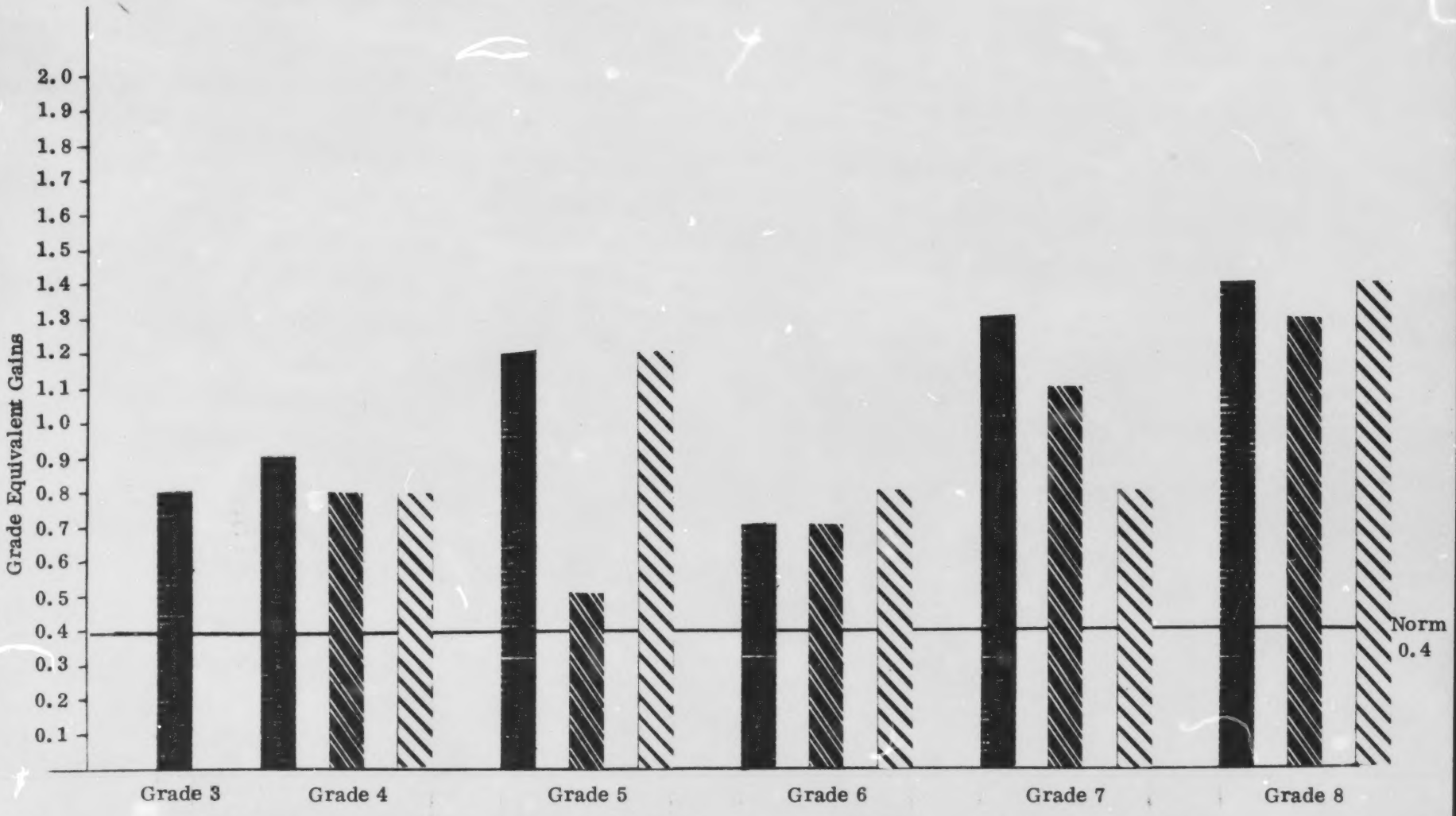

Figure L-1: Grade Equivalent Gains in Total Language of Three Program Groups in Grades 3-8

for each month of instruction. At each grade level, parochial school students as a group, scored higher on both the pre- and posttests, but tended to gain at a similar or slower rate in comparison to their peers in the public schools.

Pretest and posttest scores in Total Language were transformed into percentile ranks and NCE scores, and these are displayed in Table L-2. (Percentile rank and NCE scores for each subtest are reported in Tables 6E and 7E in Appendix E.) As the figures reported in Table L-2 indicate, student achievement in language arts exceeded their previous rate of growth. Average percentile gains were quite large, and ranged from four to twenty-five percentile points. Both public and parochial school students advanced considerably in their percentile standing at each grade level. A graphic representation of the gains achieved by all participants in grades 3-8 is provided in Figure L-2. NCE gains were also substantial, and reflect the gains the students achieved in language arts as shown in their percentile ranks. NCE score gains ranged from 2.1 to 18.3 units, further demonstrating the positive impact of the Title I language arts instruction.

Table L-2

Summary of Percentile and NCE Gains in Language Arts on the California Achievement Tests - Total Language

Group	Percentile			NCE		
	Pre	Post	Gain	Pre	Post	Gain
Grade 3						
Public Schools	11	36	25	24.2	42.5	18.3
Grade 4						
Public Schools	19	33	14	31.5	40.7	9.2
Parochial Schools	36	46	10	42.5	47.9	5.4
All Participants	21	33	12	33.0	40.7	7.7
Grade 5						
Public Schools	18	32	14	30.7	40.1	9.4
Parochial Schools	45	49	4	47.4	49.5	2.1
All Participants	18	32	14	30.7	40.1	9.4
Grade 6						
Public Schools	11	16	5	24.2	29.1	4.9
Parochial Schools	49	56	7	49.5	53.2	3.7
All Participants	12	18	6	25.3	30.7	5.4

Table L-2 (Cont.)

Group	Percentile			NCE		
	Pre	Post	Gain	Pre	Post	Gain
Grade 7						
Public Schools	12	22	10	25.3	33.7	8.4
Parochial Schools	21	30	9	33.0	39.0	6.0
All Participants	14	25	11	27.2	35.8	8.6
Grade 8						
Public Schools	10	20	10	23.0	32.3	9.3
Parochial Schools	27	40	13	37.1	44.7	7.6
All Participants	15	25	10	28.2	35.8	7.6

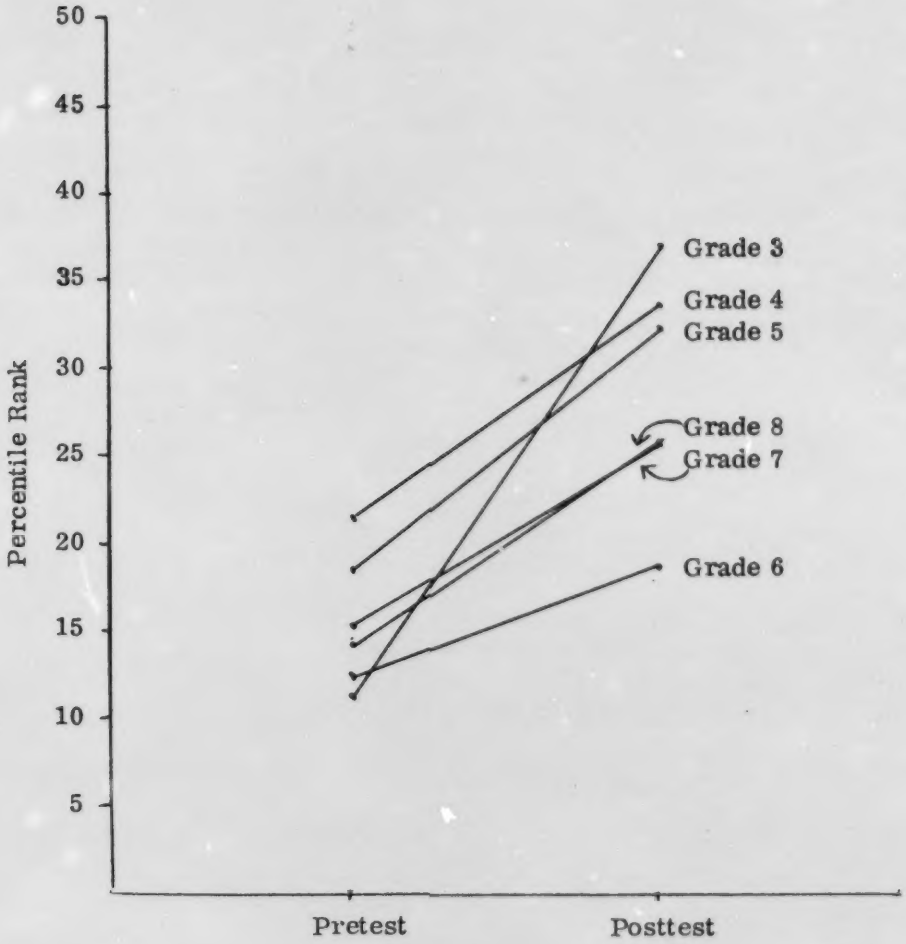

Figure L-2: Gains in Percentile Rank in Total Language for Grades 3-8 - All Participants

Process

Discussed below is a summary of the evaluation of those inputs and operational processes related to the proper functioning of the Title I Program and the attainment of its language arts product objectives. Included are: administration and supervision, communication, student evaluation, teacher aides, time, and value perceived by others. This discussion is based on site visits to Title I classrooms, and personal interviews and/or questionnaires administered to administrators, supervisors, Title I teachers, principals, classroom teachers, and parents.

Administration and Supervision. All Title I teachers clearly understood the program's guidelines. Despite the fact that the program began late in the year, a majority of teachers thought it was well organized, and the administration was responsive to their needs. Title I teachers were also satisfied with the cooperation and helpfulness of their principals. Principals also reported good communication and cooperation with Title I administrators.

While the Title I Language Arts teachers were adequately supported in the implementation of the program, most wanted more specific help in establishing programs for their students. While most principals felt supervision was adequate, there was only limited supervision in the program. The Assistant Directors, Staff Development were not assigned supervisory responsibilities for the Language Arts Program. However, practical matters, such as materials and instructional environment were monitored regularly by the Associate Directors. Their assistance was rated positively by the Language Arts teachers.

Communication. Communication between the Title I teachers and the classroom teachers and principals was good. For the most part, neither the "pull-out" system for the Language Arts program nor the implementation of the program at the midpoint of the year affected rapport between Title I and the classroom teachers. A majority of principals and classroom teachers felt that regular class activity was not disturbed substantially, and most Title I teachers were able to discuss adequately student progress with their classroom teachers.

Facilities. The teachers worked in an adequate instructional environment, with the exception of two unique cases: a teacher "floating" between schools, and a teacher in a poorly insulated portable classroom to which access was difficult in bad weather. A general description of most Language Arts environments was: a fairly quiet and adequate size classroom which could accommodate more than one group, with moveable seating and adequate material storeage space. Both lighting and temperature, including humidity level, were also good. A note should be made that a significant minority (41%) were teaching in spaces not classified as classrooms, such as libraries and basements, which in some had many distractions.

Instruction. Most Title I Language Arts teachers planned an individual instructional sequence and utilized some form of individual lesson plan. However, over one-half reported that they conducted their classes for the group as a whole, probably because most found the student/teacher ratio (10/1) inappropriate. More than half said that an aide would have made it possible for more individualization of instruction.

When instruction was observed in the Language Arts schools, classroom instruction was for the group in 18 out of 27 cases observed. Individualization was attempted through the use of workbooks, especially the Individual Corrective English workbooks. Most often the teaching consisted of grammar instruction, with workbooks for reinforcement. There was much student/teacher interaction through questions and responses. A variety of other activities was also observed, but in small numbers (e.g., board work, writing initiated by teacher direction, and grammar instruction using tapes).

Materials. Despite the late start of the program, initial problems with supplies and materials were resolved so that one-half of the Language Arts teachers were satisfied with the amount of instructional materials available. Slightly less than half, however, were satisfied with their quality. A majority reported having sufficient school supplies. No in-service time was provided after the initial orientation, and most Title I teachers found they would have liked an opportunity to share materials prepared by other Title I teachers. The commercial materials most used were: Barnell-Loft, Capitalization and Punctuation Series, McCormick-Mathers, Individual Corrective English and McGraw-Hill, Joy Activity Card.

Morale. Only one of the Language Arts teachers was unhappy working in the program and not accomplishing something worthwhile. All expressed confidence in their qualifications to teach language arts with only one-half perceiving that appropriate priority was placed in Language Arts by the Title I administration.

Orientation and In-service. The orientation to the Language Arts program was considered by most teachers surveyed as providing them with the information necessary to implement their program. Ninety-four percent of the teachers said they were provided with sufficient orientation about the objectives and procedures of the Language Arts Program of Title I. Clarity as to rules and their responsibilities was affirmed by eighty-three percent of the teachers. Twenty-four percent of the teachers, however, found that they required additional orientation to carry out their duties effectively. Workshops were suggested by teachers for individualization and sharing of ideas and problems that might have occurred after the program's initial period of implementation. Such workshops were not provided due to the restrictions imposed on Title I by central office administration regarding in-service time, and the shortness of the program.

Objectives. Most of the Language Arts Title I teachers understood the objectives of the Title I program, as did nearly all principals and classroom teachers. Only a few classroom teachers and Language Arts teachers were not sure whether the objectives of the program met the needs of the students. Most principals, however, thought they did. Most teachers reported no problems in following the curriculum guides but only half of the Language Arts teachers reported utilizing the specific objectives in the guide for regular planning and evaluation.

Parental Communication. Most Language Arts teachers felt that parents had not taken an active interest in the Title I program, so that communication

with parents was a problem. The teachers reported they saw less than 5 parents, on the average, during the year. Over half of the teachers, however, were satisfied with the reporting of children's progress to their parents. Parents also were generally satisfied with the amount of information they had received regarding their child's progress in the Language Arts program.

Student Evaluation. Most Title I Language Arts teachers agreed that the process for identifying children for the Title I Language Arts program selected those most in need of help. However, the checklist for identification was considered unsatisfactory by 41% of the teachers. In particularly the checklist was criticized for its lack of specificity. Classroom teachers and principals overwhelmingly agreed that Title I Language Arts program was serving children most in need of help. Devices used to identify students' strengths and weaknesses were generally acceptable to the Title I staff, although two teachers did not agree with the use of the California Achievement Test.

Time. The Title I staff generally did not find that the paperwork required by the Title I administration was a problem. There was enough time provided for instructional planning according to most. Time for planning and paperwork ranged from thirty to sixty minutes a day.

Value Perceived by Others. The value of the Title I Language Arts program was rated very highly by the majority of the Title I teachers, classroom teachers, principals and parents. The majority of principals and classroom teachers would like to see the Language Arts Title I program continued.

RELATED ISSUES

The evaluation RFP requested that the evaluators examine whether overlap existed between Title I and other supplementary programs in Boston. Principals were asked to indicate which programs overlapped and the extent of such overlap. Only two of 19 principals responding reported any overlap as follows: at the E. Greenwood (Language Arts and ESAA) and the Grew (Language Arts, ESAA, PL 94-142; Special Education, Occupational/Vocational Education). The principals did not elaborate on the extent of the overlap.

SUMMARY OF FINDINGS

The Language Arts Program resulted from funding under Part B of Title I for special incentive grants. This was the first year of the program, which began in December. Twenty-seven teachers served over 1,300 students in grades 4-8. Fourteen elementary schools and eight middle schools were involved in the project. For the most part, the schools were those that were eligible for Title I services but not able to be included in the Title I reading program. The instructional program was based on the language arts curriculum developed by the Boston Public Schools.

Large gains in language arts skills were demonstrated by participants at all grade levels. Expectations were exceeded in terms of grade equivalent scores as students gained eight to fourteen months in G.E. score during the four-month period between pretest and posttest. Students, on the average, also advanced in percentile rank in relation to the national norms.

Two cases of overlap between the Language Arts program and other supplementary programs were reported at two elementary schools.

RECOMMENDATIONS

Hire a coordinator for the Language Arts Program whose principal duties would be supervision.

Provide extra help to new teachers in establishing programs for their students either through on-site supervision or in a group setting.

Remove the program from those two schools without adequate facilities.

Reduce the student-teacher ratio to 5:1.

Increase the degree of individualized planning and instruction based on the specific objectives.

Review the use of materials with the teachers to eliminate those not found useful and to generate ideas for new materials.

Provide regular in-service sessions based on the teacher's needs, with some time at each for sharing materials and ideas.

Involve activities of the Community Relations Department in the Language Arts Program schools.

Revise the checklist procedure for selecting students to increase its specificity.

APPENDIX A

TESTING PROGRAM

TESTING PROGRAM

A pretest posttest norm referenced evaluation design was employed. Depending upon which program the students participated in, children were administered the Mathematics subtests or Language Arts subtests of the California Achievement Tests, 1970 edition, or the Reading subtests of the Metropolitan Achievement Tests, 1970 edition in October, 1977 and May, 1978. Teachers administered the tests as specified by the publishers. All tests were machine scored. The pretests of the Metropolitan Tests were scored by MRC of Iowa. The posttests of the Metropolitan Tests were scored by the Boston School Department's data processing center. The pretest and posttest of the California Tests were scored by the publisher. The Department of MIS Title I Office of Research and Evaluation in the Boston Public Schools was responsible for administering all tests except the May administration of the Metropolitan Tests, which was the regular city-wide testing program.

The tests were administered as follows:

	Metropolitan				California			
	Pre		Post		Pre		Post	
Grade	Level	Form	Level	Form	Level	Form	Level	Form
1	-	-	Pr. I	H	-	-	1	B
2	Pr. I	G	Pr. II	H	1	A	1	B
3	Pr. II	G	Elem.	H	2	A	2	B
4	Elem.	G	Elem.	H	2	A	2	B
5	Inter.	G	Elem.	H	3	A	3	B
6	Inter.	G	Inter.	H	3	A	3	B
7	Adv.	G	Inter.	H	4	A	4	B
8	Adv.	G	Inter.	H	4	A	4	B

The results were analyzed statisticaliy through correlated t tests between pre- and posttest standard scores. The pre- and posttest scores were compared across all schools for each grade. The test results were summarized in terms of grade equivalent, percentile and NCE (normal curve equivalent) gains between pre- and posttests and average monthly gains in grade equivalent as required by the State Department of Education. In addition, at each grade level, separate analyses were made of student achievement in the NCEC Reading Labs, parochial schools, public schools, and private schools.

APPENDIX B

STATISTICAL AND SUBTEST ANALYSIS ELEMENTARY READING AND MATH

Table 1B

Summary of Statistical Analyses of
Word Knowledge Test Scores[a]
Elementary School Level

Grade	N	Program	Mean Standard Score Pre	Mean Standard Score Post	Statistical Significance of Change[b]
1	656	Public Schools	-	36.54	-
	312	Parochial Schools	-	39.95	-
	20	Private Schools	-	35.50	-
	26	NCEC Schools	-	47.50	-
	1,014	All Participants	-	37.83	-
2	826	Public Schools	41.46	50.94	S
	279	Parochial Schools	44.77	53.62	S
	16	Private Schools	36.63	46.38	S
	32	NCEC	46.47	53.66	S
	1,153	All Participants	42.33	51.60	S
3	741	Public Schools	51.50	54.93	S
	267	Parochial Schools	54.02	57.72	S
	21	Private Schools	51.05	54.19	NS
	40	NCEC Schools	54.68	59.53	S
	1,069	All Participants	52.24	55.79	S

Table 1B (Cont.)

Grade	N	Program	Mean Standard Score Pre	Post	Statistical Significance of Change[b]
4	870	Public Schools	57.27	60.90	S
	279	Parochial Schools	60.78	64.92	S
	15	Private Schools	54.87	58.53	S
	50	NCEC Schools	59.36	65.46	S
	1,214	All Participants	58.14	61.98	S
5	957	Public Schools	62.99	67.86	S
	275	Parochial Schools	66.49	71.59	S
	14	Private Schools	61.53	66.57	S
	52	NCEC Schools	66.96	70.12	NS
	1,298	All Participants	63.88	68.73	S
6	7	Public Schools	67.14	69.43	NS
	222	Parochial Schools	72.36	75.82	S
	16	Private Schools	69.69	71.63	NS
	245	All Participants	72.03	75.36	S

[a] Changes analyzed by means of a t-test for correlated data using standard scores.

[b] S= Statistically significant at or above the .05 level.
NS= Not statistically significant at the .05 level.

Table 2B

Summary of Statistical Analyses of
Reading Test Scores[a]
Elementary School Level

Grade	N	Program	Mean Standard Score Pre	Mean Standard Score Post	Statistical Significance of Change[b]
1	643	Public Schools	-	34.43	-
	308	Parochial Schools	-	37.45	-
	18	Private Schools	-	32.94	-
	26	NCEC Schools	-	51.27	-
	995	All Participants	-	35.78	-
2	776	Public Schools	36.83	48.50	S
	271	Parochial Schools	40.08	52.13	S
	17	Private Schools	31.29	46.94	S
	32	NCEC Schools	43.88	52.59	S
	1,096	All Participants	37.75	49.50	S
3	717	Public Schools	47.74	53.61	S
	264	Parochial Schools	51.27	55.26	S
	21	Private Schools	50.05	55.95	S
	39	NCEC Schools	51.10	58.92	S
	1,041	All Participants	48.81	54.27	S

Table 2B (Cont.)

Grade	N	Program	Mean Standard Score Pre	Mean Standard Score Post	Statistical Significance of Change[b]
4	863	Public Schools	53.47	59.29	S
	275	Parochial Schools	57.88	64.36	S
	15	Private Schools	47.27	56.33	S
	51	NCEC Schools	56.14	62.16	S
	1,204	All Participants	54.51	60.53	S
5	951	Public Schools	60.46	67.18	S
	272	Parochial Schools	64.16	70.44	S
	14	Private Schools	56.57	62.86	NS
	50	NCEC Schools	66.74	71.54	S
	1,287	All Participants	61.44	67.99	S
6	7	Public Schools	63.14	67.43	NS
	221	Parochial Schools	71.25	77.47	S
	16	Private Schools	66.50	69.19	NS
	244	All Participants	70.70	76.64	S

[a] Changes analyzed by means of a t-test for correlated data using standard scores.

[b] S= Statistically significant at or above the .05 level.
NS= Not statistically significant at the .05 level.

Table 3B

Summary of Statistical Analyses of
Total Reading Test Scores[a]
Elementary School Level

Grade	N	Program	Mean Standard Score Pre	Post	Statistical Significance of Change[b]
1	646	Public Schools	--	34.78	-
	307	Parochial Schools	-	38.21	-
	18	Private Schools	-	33.89	-
	26	NCEC Schools	-	48.04	-
	997	All Participants	-	36.17	-
2	775	Public Schools	38.12	48.65	S
	271	Parochial Schools	41.11	51.67	S
	16	Private Schools	33.81	45.44	S
	32	NCEC Schools	43.97	51.91	S
	1,094	All Participants	38.97	49.44	S
3	708	Public Schools	48.94	53.08	S
	261	Parochial Schools	51.70	55.36	S
	21	Private Schools	49.52	53.00	S
	39	NCEC Schools	51.54	57.97	S
	1,029	All Participants	49.75	53.85	S

Table 3B (Cont.)

Grade	N	Program	Mean Standard Score Pre	Post	Statistical Significance of Change[b]
4	856	Public Schools	54.46	59.17	S
	275	Parochial Schools	58.27	63.63	S
	15	Private Schools	50.67	56.47	S
	50	NCEC Schools	56.96	63.28	S
	1,196	All Participants	55.39	60.33	S
5	944	Public Schools	60.80	66.61	S
	272	Parochial Schools	64.95	71.02	S
	14	Private Schools	58.79	64.14	S
	50	NCEC Schools	66.38	70.02	S
	1,280	All Participants	61.88	67.65	S
6	7	Public Schools	64.71	68.00	NS
	221	Parochial Schools	71.64	76.79	S'
	16	Private Schools	68.00	70.50	NS
	244	All Participants	71.20	76.13	S

[a] Changes analyzed by means of a t-test for correlated data using standard scores.

[b] S= Statistically significant at or above the .05 level.
NS= Not statistically significant at the .05 level.

Table 4B

Summary of Mean Grade Equivalent Scores in Word Knowledge
Across Elementary Program Groups

Group	Pretest G. E. Mean	Posttest G. E. Mean	Mean G. E. Gain	Monthly Gain Rate
Grade 1				
Public Schools	-	1.7	-	-
Parochial Schools	-	1.8	-	-
Private Schools	-	1.6	-	-
NCEC Schools	-	2.3	-	-
All Participants	-	1.7	-	-
Grade 2				
Public Schools	1.9	2.5	0.6	.9
Parochial Schools	2.0	2.7	0.7	1.0
Private Schools	1.7	2.1	0.4	.6
NCEC Schools	2.2	2.7	0.5	.7
All Participants	1.9	2.5	0.6	.9
Grade 3				
Public Schools	2.5	2.8	0.3	.4
Parochial Schools	2.7	3.1	0.4	.6
Private Schools	2.5	2.7	0.2	.3
NCEC Schools	2.8	3.3	0.5	.7
All Participants	2.5	2.9	0.4	.6
Grade 4				
Public Schools	3.0	3.4	0.4	.3
Parochial Schools	3.4	3.8	0.4	.6
Private Schools	2.8	3.2	0.4	.6
NCEC Schools	3.2	3.8	0.6	.9
All Participants	3.1	3.5	0.4	0.6

Table 4B (Cont.)

Group	Pretest G. E. Mean	Posttest G. E. Mean	Mean G. E. Gain	Monthly Gain Rate
Grade 5				
Public Schools	3.6	4.2	0.6	.9
Parochial Schools	3.9	4.8	0.9	1.3
Private Schools	3.5	4.1	0.6	.9
NCEC Schools	4.1	4.5	0.4	.6
All Participants	3.7	4.4	0.7	1.0
Grade 6				
Public Schools	4.1	4.4	0.3	.4
Parochial Schools	4.8	5.4	0.6	.9
Private Schools	4.5	4.8	0.3	.4
All Participants	4.8	5.3	0.5	.7

Table 5B

Summary of Mean Grade Equivalent Scores in Reading
Across Elementaty Program Groups

Group	Pretest G. E. Mean	Posttest G. E. Mean	Mean G. E. Gain	Monthly Gain Rate
Grade 1				
Public Schools	-	1.5	-	-
Parochial Schools	-	1.6	-	-
Private Schools	-	1.5	-	-
NCEC Schools	-	1.5	-	-
All Participants	-	1.6	-	-
Grade 2				
Public Schools	1.6	2.3	0.7	1.0
Parochial Schools	1.8	2.6	0.8	1.1
Private Schools	1.4	2.2	0.8	1.1
NCEC Schools	1.4	2.2	0.8	1.0
All Participants	1.7	2.4	0.7	1.0
Grade 3				
Public Schools	2.3	2.7	0.4	.6
Parochial Schools	2.5	2.8	0.3	.4
Private Schools	2.4	2.9	0.5	.7
NCEC Schools	2.5	3.2	0.7	1.0
All Participants	2.3	2.7	0.4	.6
Grade 4				
Public Schools	2.7	3.2	0.5	0.7
Parochial Schools	3.1	3.7	0.6	.9
Private Schools	2.2	2.9	0.7	1.0
NCEC Schools	2.9	3.5	0.6	.9
All Participants	2.8	3.4	0.6	.9

Table 5B (Cont.)

Group	Pretest G. E. Mean	Posttest G. E. Mean	Mean G. E. Gain	Monthly Gain Rate
Grade 5				
Public Schools	3.3	4.1	0.8	1.1
Parochial Schools	3.7	4.4	0.7	1.0
Private Schools	3.0	3.6	0.6	.9
NCEC Schools	4.1	4.7	0.6	.9
All Participants	3.4	4.2	0.8	1.1
Grade 6				
Public Schools	3.6	4.1	0.5	.7
Parochial Schools	4.5	5.4	0.9	1.3
Private Schools	4.1	4.3	0.2	.3
All Participants	4.5	5.4	0.9	1.3

Table 6B

Summary of Mean Percentile and NCE Scores in Word Knowledge
Across Elementary Program Groups

Group	Percentile			NCE		
	Pre	Post	Gain	Pre	Post	Gain
Grade 1						
Public Schools	-	38	-	-	43.6	-
Parochial Schools	-	46	-	-	47.9	-
Private Schools	-	36	-	-	42.5	-
NCEC Schools	-	76	-	-	64.9	-
All Participants	-	42	-	-	45.8	-
Grade 2						
Public Schools	32	32	0	40.1	40.1	0.0
Parochial Schools	48	50	2	48.9	50.0	1.1
Private Schools	20	14	-6	32.3	27.2	-5.1
NCEC Schools	56	50	-6	53.2	50.0	-3.2
All Participants	36	38	2	42.5	48.9	6.4
Grade 3						
Public Schools	28	24	-4	37.7	35.1	-1.6
Parochial Schools	36	32	-4	42.5	40.1	-2.4
Private Schools	24	22	-2	35.1	33.7	-2.6
NCEC Schools	38	40	2	43.6	44.7	1.1
All Participants	28	26	-2	37.7	36.5	-1.2

Table 6B (Cont.)

Group	Percentile			NCE		
	Pre	Post	Gain	Pre	Post	Gain
Grade 4						
Public Schools	22	20	-2	35.7	32.3	-3.4
Parochial Schools	32	30	-2	40.1	39.0	-1.1
Private Schools	16	16	0	29.1	29.1	0.0
NCEC Schools	26	30	4	36.5	39.0	3.5
All Participants	24	22	-2	35.1	33.7	-1.4
Grade 5						
Public Schools	18	20	2	30.7	32.3	2.4
Parochial Schools	26	34	8	36.5	41.3	5.2
Private Schools	16	18	2	29.1	30.7	1.6
NCEC Schools	28	28	0	37.7	37.7	0.0
All Participants	20	24	4	32.3	35.1	3.2
Grade 6						
Public Schools	16	14	-2	29.1	27.2	-2.1
Parochial Schools	28	28	0	37.7	37.7	0.0
Private Schools	22	18	-4	33.7	30.7	-3.0
All Participants	28	26	-2	37.7	36.5	-1.2

Table 7B

Summary of Mean Percentile and NCE Scores in Reading
Across Elementary Program Groups

Group	Percentile			NCE		
	Pre	Post	Gain	Pre	Post	Gain
Grade 1						
Public Schools	-	30	-	-	39.0	-
Parochial Schools	-	38	-	-	43.6	-
Private Schools	-	24	-	-	35.1	-
NCEC Schools	-	89	-	-	75.8	-
All Participants	-	36	-	-	42.5	-
Grade 2						
Public Schools	22	32	10	33.7	40.1	7.6
Parochial Schools	30	44	14	39.0	46.8	7.8
Private Schools	8	26	18	20.4	36.5	36.1
NCEC Schools	46	50	4	20.4	36.5	36.1
All Participants	24	36	12	35.1	42.5	7.4
Grade 3						
Public Schools	16	28	12	29.1	37.7	8.6
Parochial Schools	24	30	6	35.1	39.0	4.1
Private Schools	22	34	12	33.7	41.3	8.4
NCEC Schools	24	42	18	35.1	45.8	10.7
All Participants	18	28	10	30.7	37.7	7.0

Table 7B (Cont.)

Group	Percentile Pre	Percentile Post	Percentile Gain	NCE Pre	NCE Post	NCE Gain
Grade 4						
Public Schools	18	20	2	30.7	32.3	2.4
Parochial Schools	28	34	6	37.7	41.3	4.4
Private Schools	8	14	6	20.4	27.2	7.2
NCEC Schools	22	28	6	33.7	37.7	4.0
All Participants	20	26	6	32.3	36.5	4.2
Grade 5						
Public Schools	16	28	2	29.1	30.7	1.6
Parochial Schools	24	24	0	35.1	35.1	0.0
Private Schools	12	12	0	25.3	25.3	0.0
NCEC Schools	28	28	0	37.7	37.7	0.0
All Participants	18	20	2	30.7	32.3	2.4
Grade 6						
Public Schools	12	11	-1	25.3	24.2	-1.1
Parochial Schools	26	28	2	36.5	37.7	1.2
Private Schools	18	14	-4	30.7	27.2	-3.5
All Participants	26	28	2	36.5	37.7	1.2

Table 8B

Summary of Analyses of Mathematics Subtests
California Achievement Tests
Math Computation

Grade	Program	N	t	Significance[a]
2	Public Schools	134	15.01	S
	Parochial Schools	36	7.54	S
	All Participants	170	16.46	S
3	Public Schools	150	16.76	S
	Parochial Schools	35	14.10	S
	All Participants	185	20.12	S
4	Public Schools	174	15.76	S
	Parochial Schools	32	9.73	S
	All Participants	206	18.09	S
5	Public Schools	154	11.71	S
	Parochial Schools	30	6.84	S
	All Participants	184	13.37	S
6	Parochial Schools	47	7.70	S

[a] S= Statistically significant at or above the .05 level.
NS= Not statistically significant at the .05 level.

Table 9B

Summary of Analyses of Mathematics Subtests
California Achievement Tests
Math Concepts

Grade	Program	N	t	Significance[a]
2	Public Schools	135	16.24	S
	Parochial Schools	36	11.21	S
	All Participants	171	19.35	S
3	Public Schools	155	16.28	S
	Parochial Schools	35	10.69	S
	All Participants	190	18.67	S
4	Public Schools	175	16.55	S
	Parochial Schools	31	9.25	S
	All Participants	206	18.71	S
5	Public Schools	153	9.60	S
	Parochial Schools	30	3.96	S
	All Participants	183	10.31	S
6	Parochial Schools	47	6.80	S

[a] S= Statistically significant at or above the .05 level.
NS= Not statistically significant at the .05 level.

Table 10B

Summary of Analyses of Mathematics Subtests
California Achievement Tests
Total Math

Grade	Program	N	t	Significance[a]
2	Public Schools	135	18.87	S
	Parochial Schools	36	10.26	S
	All Participants	171	21.30	S
3	Public Schools	149	20.12	S
	Parochial Schools	35	16.42	S
	All Participants	184	23.94	S
4	Public Schools	174	19.60	S
	Parochial Schools	32	12.55	S
	All Participants	206	22.50	S
5	Public Schools	153	13.24	S
	Parochial Schools	30	7.85	S
	All Participants	183	15.07	S
6	Parochial Schools	47	9.27	S

[a] S= Statistically significant at or above the .05 level.
NS= Not statistically significant at the .05 level.

Table 11B

Summary of Mean Grade Equivalent Scores
in Mathematics on the California Achievement Tests
Math Computation

Group	Pretest G. E. Mean	Posttest G. E. Mean	Mean G. E. Gain	Monthly Gain Rate
Grade 1				
Public Schools	-	1.6	-	-
Parochial Schools	-	1.9	-	-
All Participants	-	1.7	-	-
Grade 2				
Public Schools	1.8	2.7	0.9	1.3
Parochial Schools	1.7	2.8	1.1	1.6
All Participants	1.7	2.7	1.0	1.4
Grade 3				
Public Schools	2.3	3.5	1.2	1.7
Parochial Schools	2.7	3.8	1.1	1.6
All Participants	2.4	3.5	1.1	1.6
Grade 4				
Public Schools	3.3	4.3	1.0	1.4
Parochial Schools	3.4	4.7	1.3	1.9
All Participants	3.3	4.3	1.0	1.4
Grade 5				
Public Schools	3.9	4.9	1.0	1.4
Parochial Schools	4.0	5.2	1.2	1.7
All Participants	3.9	4.9	1.0	1.4
Grade 6				
Parochial Schools	5.1	6.0	0.9	1.3

Table 12B

Summary of Mean Grade Equivalent Scores
in Mathematics on the California Achievement Tests
Math Concepts

Group	Pretest G. E. Mean	Posttest G. E. Mean	Mean G. E. Gain	Monthly Gain Rate
Grade 1				
Public Schools	--	1.2	-	-
Parochial Schools	-	1.5	-	-
All Participants	-	1.3	-	-
Grade 2				
Public Schools	1.4	2.3	0.9	1.3
Parochial Schools	1.6	2.6	1.0	1.4
All Participants	1.5	2.4	0.9	1.3
Grade 3				
Public Schools	2.2	3.2	1.0	1.4
Parochial Schools	2.7	3.6	0.9	1.3
All Participants	2.3	3.3	1.0	1.4
Grade 4				
Public Schools	2.8	3.7	0.9	1.3
Parochial Schools	3.4	4.8	1.4	1.0
All Participants	2.9	3.9	1.0	1.4
Grade 5				
Public Schools	3.4	4.4	1.0	1.4
Parochial Schools	4.1	4.7	0.6	0.9
All Participants	3.5	4.5	1.0	1.4
Grade 6				
Parochial Schools	4.8	5.7	0.9	1.3

Table 13B

Summary of Percentile and NCE Gains in Mathematics
on the California Achievement Tests
Math Computation

Group	Percentile			NCE		
	Pre	Post	Gain	Pre	Post	Gain
Grade 1						
Public Schools	-	48	-	-	48.9	-
Parochial Schools	-	59	-	-	54.8	-
All Participants	-	51	-	-	50.5	-
Grade 2						
Public Schools	38	53	15	43.6	51.6	8.0
Parochial Schools	35	58	23	41.9	54.8	12.9
All Participants	35	53	18	41.9	51.6	9.7
Grade 3						
Public Schools	19	42	23	31.5	45.8	14.3
Parochial Schools	35	56	21	41.9	53.2	11.3
All Participants	23	42	19	34.4	45.8	11.4

Table 13B (Cont.)

Group	Percentile			NCE		
	Pre	Post	Gain	Pre	Post	Gain
Grade 4						
Public Schools	24	36	12	35.1	42.5	7.4
Parochial Schools	27	49	22	37.1	49.5	12.4
All Participants	24	36	12	35.1	42.5	7.4
Grade 5						
Public Schools	18	29	11	30.7	38.3	7.6
Parochial Schools	20	35	15	32.3	41.9	9.6
All Participants	18	29	11	30.7	38.3	9.6
Grade 6						
Parochial Schools	27	35	7	37.1	41.9	4.8

Table 14B

Summary of Percentile and NCE Gains in Mathematics
on the California Achievement Tests
Math Concepts

Group	Percentile			NCE		
	Pre	Post	Gain	Pre	Post	Gain
Grade 1						
Public Schools	-	34	-	-	41.3	-
Parochial Schools	-	43	-	--	46.3	-
All Participants	-	34	-	-	41.3	-
Grade 2						
Public Schools	25	35	10	35.8	41.9	6.1
Parochial Schools	31	48	17	39.6	48.9	9.3
All Participants	28	39	11	37.7	44.1	6.4
Grade 3						
Public Schools	22	37	15	33.7	43.0	9.3
Parochial Schools	38	49	11	43.6	49.5	5.9
All Participants	25	37	12	35.8	43.0	7.2

Table 14B (Cont.)

Group	Percentile			NCE		
	Pre	Post	Gain	Pre	Post	Gain
Grade 4						
Public Schools	20	30	10	32.3	39.0	6.7
Parochial Schools	36	53	17	42.5	51.6	9.1
All Participants	23	34	11	34.4	41.3	6.9
Grade 5						
Public Schools	17	25	8	29.9	35.8	5.9
Parochial Schools	29	31	2	38.3	39.6	1.3
All Participants	20	38	8	32.3	37.7	5.4
Grade 6						
Parochial Schools	30	36	6	39.0	42.5	3.5

APPENDIX C

STATISTICAL AND SUBTEST ANALYSIS
MIDDLE SCHOOL

Table 1C

Summary of Statistical Analyses of
Word Knowledge Test Scores[a]
Middle School Level

Grade	N	Program	Mean Standard Score Pre	Mean Standard Score Post	Statistical Significance of Change[b]
6	348	Public Schools	64.31	69.24	S
	80	Parochial Schools	74.71	78.01	S
	114	NCEC Schools	66.80	71.67	S
	542	All Participants	66.37	71.04	S
7	266	Public Schools	67.59	71.25	S
	77	Parochial Schools	76.55	79.10	S
	103	NCEC Schools	69.68	74.84	S
	446	All Participants	69.62	73.44	S
8	268	Public Schools	71.50	73.81	S
	90	Parochial Schools	81.76	83.18	NS
	55	NCEC Schools	73.38	76.53	S
	413	All Participants	73.99	76.21	S

[a] Changes analyzed by means of a t-test for correlated data using standard scores.

[b] S= Statistically significant at or above the .05 level.
NS= Not statistically significant at the .05 level.

Table 2C

Summary of Statistical Analyses of
Reading Test Scores[a]
Middle School Level

Grade	N	Program	Mean Standard Score Pre	Mean Standard Score Post	Statistical Significance of Change[b]
6	342	Public Schools	61.38	68.34	S
	80	Parochial Schools	71.65	78.16	S
	110	NCEC Schools	63.78	71.21	S
	532	All Participants	63.42	70.41	S
7	259	Public Schools	63.88	71.54	S
	77	Parochial Schools	74.21	79.45	S
	99	NCEC Schools	68.65	76.33	S
	435	All Participants	66.79	74.03	S
8	259	Public Schools	67.73	74.93	S
	90	Parochial Schools	81.82	83.00	NS
	55	NCEC Schools	68.64	76.84	S
	404	All Participants	70.99	76.99	S

[a] Changes analyzed by means of a t-test for correlated data using standard scores.

[b] S= Statistically significant at or above the .05 level.
NS= Not statistically significant at the .05 level.

Table 3C

Summary of Statistical Analyses of
Total Reading Test Scores[a]
Middle School Level

Grade	N	Program	Mean Standard Score Pre	Post	Statistical Significance of Change[b]
6	339	Public Schools	62.27	68.64	S
	80	Parochial Schools	73.25	78.26	S
	110	NCEC Schools	64.95	71.30	S
	529	All Participants	64.48	70.65	S
7	258	Public Schools	64.81	71.36	S
	77	Parochial Schools	75.36	79.43	S
	99	NCEC Schools	68.09	75.65	S
	434	All Participants	67.43	73.77	S
8	259	Public Schools	69.12	74.13	S
	90	Parochial Schools	82.16	83.67	S
	55	NCEC Schools	70.56	76.62	S
	404	All Participants	72.22	76.59	S

[a] Changes analyzed by means of a t-test for correlated data using standard scores.
[b] S= Statistically significant at or above the .05 level.

Table 4C

Summary of Mean Grade Equivalent Scores
Middle School Program - Word Knowledge

Group	Pretest G. E. Mean	Posttest G. E. Mean	Mean G. E. Gain	Monthly Gain Rate
Grade 6				
Public Schools	3.7	4.4	0.7	1.0
Parochial Schools	5.3	5.8	0.5	.7
NCEC Schools	4.1	4.8	0.7	1.0
All Participants	3.9	4.7	0.8	1.1
Grade 7				
Public Schools	4.2	4.7	0.5	.7
Parochial Schools	5.6	6.0	0.4	.6
NCEC Schools	4.5	5.3	0.8	1.1
All Participants	4.5	5.0	0.5	.7
Grade 8				
Public Schools	4.8	5.2	0.4	.6
Parochial Schools	6.5	6.7	0.2	.3
NCEC Schools	5.0	5.6	0.6	.9
All Participants	5.2	5.4	0.2	.3

Table 5C

Summary of Mean Grade Equivalent Scores
Middle School Program Reading

Group	Pretest G. E. Mean	Posttest G. E. Mean	Mean G. E. Gain	Monthly Gain Rate
Grade 6				
Public Schools	3.4	4.2	0.8	1.1
Parochial Schools	4.7	5.5	0.8	1.1
NCEC Schools	3.7	4.5	0.8	1.1
All Participants	3.6	4.4	0.8	1.1
Grade 7				
Public Schools	3.7	4.7	1.0	1.4
Parochial Schools	4.9	5.7	0.8	1.1
NCEC Schools	4.3	5.3	1.0	1.4
All Participants	4.1	4.9	0.8	1.1
Grade 8				
Public Schools	4.2	5.1	0.9	1.3
Parochial Schools	6.1	6.3	0.2	.3
NCEC Schools	4.3	5.4	1.1	1.6
All Participants	4.5	5.4	0.9	1.3

Table 6C

Summary of Mean Percentile and NCE Scores
in Word Knowledge - Middle School Program

Group	Percentile			NCE		
	Pre	Post	Gain	Pre	Post	Gain
Grade 6						
Public Schools	10	14	4	23.0	27.2	4.2
Parochial Schools	34	32	-2	41.3	40.1	1.2
NCEC Schools	16	18	2	29.1	30.7	1.6
All Participants	14	18	4	27.2	30.7	3.5
Grade 7						
Public Schools	10	14	4	23.0	27.2	4.2
Parochial Schools	26	28	2	36.5	37.7	1.2
NCEC Schools	14	22	8	27.2	33.7	6.5
All Participants	14	18	4	27.2	30.7	3.5
Grade 8						
Public Schools	11	12	1	24.2	25.3	1.1
Parochial Schools	26	24	-2	36.5	35.1	1.4
NCEC Schools	12	16	4	25.3	29.1	4.2
All Participants	14	14	0	27.2	27.2	0

Table 7C

Summary of Mean Percentile and NCE Scores
in Reading - Middle School Program

Group	Percentile			NCE		
	Pre	Post	Gain	Pre	Post	Gain
Grade 6						
Public Schools	10	12	2	23.0	25.3	2.3
Parochial Schools	28	28	0	37.7	37.7	0.0
NCEC Schools	14	16	2	27.2	29.1	2.1
All Participants	12	14	2	25.3	27.2	2.1
Grade 7						
Public Schools	8	16	8	20.4	29.1	9.3
Parochial Schools	22	28	6	33.7	37.7	4.0
NCEC Schools	14	23	9	27.2	34.4	7.2
All Participants	11	20	9	24.2	32.3	8.1
Grade 8						
Public Schools	8	14	6	20.4	27.2	7.2
Parochial Schools	24	26	2	35.1	36.5	1.4
NCEC Schools	10	16	6	23.0	29.1	6.1
All Participants	11	16	5	24.2	29.1	5.1

APPENDIX D

STATISTICAL AND SUBTEST ANALYSIS
NIE

Table 1D

Summary of Statistical Analyses of
Word Knowledge Test Scores[a]
NIE Program

Grade	N	Mean Standard Score Pre	Post	Statistical Significance of Change[b]
1	58	-	43.03	-
2	67	45.43	54.63	S
3	45	52.33	54.78	S
4	73	58.85	62.55	S
5	69	62.94	66.68	S

[a] Changes analyzed by means of a t-test for correlated data using standard scores.

[b] S= Statistically significant at or above the .05 level.

Table 2D

Summary of Statistical Analyses of
Reading Test Scores[a]
NIE Program

Grade	N	Mean Standard Score Pre	Mean Standard Score Post	Statistical Significance of Change[b]
1	57	-	39.44	-
2	63	39.24	51.78	S
3	43	49.05	52.88	S
4	73	55.21	62.40	S
5	69	62.59	67.30	S

[a] Changes analyzed by means of a t-test for correlated data using standard scores.

[b] S = Statistically significant at or above the .05 level.

Table 3D

Summary of Statistical Analyses of
Total Reading Test Scores[a]
NIE Program

Grade	N	Mean Standard Score Pre	Mean Standard Score Post	Statistical Significance of Change[b]
1	57	-	40.37	-
2	63	40.84	51.92	S
3	43	48.98	52.56	S
4	72	56.06	61.54	S
5	68	62.00	66.32	S

[a] Changes analyzed by means of a t-test for correlated data using standard scores.

[b] S= Statistically significant at or above the .05 level.

Table 4D

Summary of Mean Grade Equivalent Scores
in Word Knowledge - NIE Program

Grade	Pretest G. E. Mean	Posttest G. E. Mean	Mean G. E. Gain	Monthly Gain Rate
1	-	2.0	-	-
2	2.0	2.8	0.8	1.1
3	2.5	2.8	0.3	.4
4	3.2	3.6	0.4	.6
5	3.6	4.1	0.5	.7

Table 5D

Summary of Mean Grade Equivalent Scores
in Reading - NIE Program

Grade	Pretest G. E. Mean	Posttest G. E. Mean	Mean G. E. Gain	Monthly Gain Rate
1	-	1.7	-	-
2	1.7	2.6	0.7	1.0
3	2.3	2.7	0.4	.6
4	2.8	3.5	0.7	1.0
5	3.6	4.1	0.5	.7

Table 6D

Summary of Mean Percentile and NCE Scores
in Word Knowledge - NIE Program

Grade	Percentile			NCE		
	Pre	Post	Gain	Pre	Post	Gain
1	-	58	-	-	54.2	-
2	48	56	8	48.9	53.2	5.7
3	28	24	-4	37.7	35.1	-2.6
4	26	24	-2	36.5	35.1	-1.4
5	18	18	0	30.7	30.7	0.0

Table 7D

Summary of Mean Percentile and NCE Scores
in Reading - NIE Program

Grade	Percentile			NCE		
	Pre	Post	Gain	Pre	Post	Gain
1	-	48	-	-	48.9	-
2	28	44	16	37.7	46.8	9.1
3	18	26	8	30.7	36.5	6.2
4	20	28	8	32.3	37.7	5.4
5	20	18	-2	32.3	30.7	-2.4

APPENDIX E

STATISTICAL AND SUBTEST ANALYSIS
LANGUAGE ARTS

Table 1E

Summary of Statistical Analyses of
Language Arts Test Scores
Language Mechanics

Grade	Program	N	t	Significance [a]
3	Public Schools	80	7.62	S
4	Public Schools	219	14.65	S
	Parochial Schools	10	3.77	S
	All Participants	229	15.06	S
5	Public Schools	203	15.26	S
	Parochial Schools	9	n/a*	n/a*
	All Participants	212	14.94	S
6	Public Schools	182	8.05	S
	Parochial Schools	9	n/a*	n/a*
	All Participants	191	8.17	S
7	Public Schools	65	5.55	S
	Parochial Schools	30	4.01	S
	All Participants	95	6.84	S
8	Public Schools	65	4.24	S
	Parochial Schools	30	4.13	S
	All Participants	95	5.54	S

[a] S= Statistically significant at or above the .05 level.
NS = Not statistically significant at the .05 level.

* Denotes number of matched cases less than 10—value of t not computed.

Table 2E

Summary of Statistical Analyses of
Language Arts Test Scores
Language Usage and Structure

Grade	Program	N	t	Significance[a]
3	Public Schools	78	5.26	S
4	Public Schools	218	7.16	S
	Parochial Schools	10	0.51	NS
	All Participants	228	7.06	S
5	Public Schools	197	2.77	S
	Parochial Schools	10	1.09	NS
	All Participants	207	2.97	S
6	Public Schools	183	1.24	NS
	Parochial Schools	10	0.75	NS
	All Participants	193	1.34	NS
7	Public Schools	61	2.51	S
	Parochial Schools	30	0.98	NS
	All Participants	91	2.68	S
8	Public Schools	65	3.84	S
	Parochial Schools	29	3.05	S
	All Participants	94	4.90	S

[a] S= Statistically significant at or beyond the .05 level.
NS= Not statistically significant at the .05 level.

Table 3E

Summary of Statistical Analyses of
Language Arts Test Scores
Total Language

Grade	Program	N	t	Significance[a]
3	Public Schools	76	8.84	S
4	Public Schools	216	16.35	S
	Parochial Schools	10	3.09	S
	All Participants	205	13.05	S
5	Public Schools	194	18.03	S
	Parochial Schools	10	1.67	NS
	All Participants	205	13.05	S
6	Public Schools	180	7.13	S
	Parochial Schools	10	1.70	NS
	All Participants	190	7.31	S
7	Public Schools	59	5.55	S
	Parochial Schools	30	4.01	S
	All Participants	89	6.80	S
8	Public Schools	64	4.72	S
	Parochial Schools	28	4.53	S
	All Participants	92	6.04	S

[a] S= Statistically significant at or above the .05 level.
NS= Not statistically significant at the .05 level.

Table 4E

Summary of Mean Grade Equivalent Scores
in Language Arts on the California Achievement Tests
Language Mechanics

Group	Pretest G. E. Mean	Posttest G. E. Mean	Mean G. E. Gain	Monthly Gain Rate
Grade 3				
Public Schools	2.3	3.2	0.9	2.3
Grade 4				
Public Schools	2.9	3.8	0.9	2.3
Parochial Schools	3.4	4.3	0.9	2.3
All Participants	2.9	3.8	0.9	2.3
Grade 5				
Public Schools	3.2	4.6	1.4	3.5
Parochial Schools	5.1	5.4	0.3	0.8
All Participants	3.3	4.6	1.3	3.3
Grade 6				
Public Schools	3.1	4.0	0.9	2.3
Parochial Schools	6.2	7.1	0.9	2.3
All Participants	3.2	4.1	0.9	2.3
Grade 7				
Public Schools	4.1	5.3	1.2	3.0
Parochial Schools	4.6	5.8	1.2	3.0
All Participants	4.3	5.4	1.1	2.8
Grade 8				
Public Schools	4.6	5.7	1.1	2.8
Parochial Schools	6.6	7.8	1.2	3.0
All Participants	5.1	6.5	1.4	3.5

Table 5E

Summary of Mean Grade Equivalent Scores
in Language Arts on the California Achievement Tests
Language Usage and Structure

Group	Pretest G. E. Mean	Posttest G. E. Mean	Mean G. E. Gain	Monthly Gain Rate
Grade 3				
Public Schools	2.4	3.0	0.6	1.5
Grade 4				
Public Schools	3.1	3.6	0.5	1.3
Parochial Schools	5.5	5.9	0.4	1.0
All Participants	3.2	3.7	0.5	1.3
Grade 5				
Public Schools	3.6	4.1	0.5	1.3
Parochial Schools	4.8	5.9	1.1	2.8
All Participants	3.6	4.2	0.6	1.5
Grade 6				
Public Schools	3.6	3.9	0.3	0.8
Parochial Schools	6.8	7.2	0.4	1.0
All Participants	3.8	4.1	0.3	0.8
Grade 7				
Public Schools	4.7	5.6	0.9	2.3
Parochial Schools	6.3	6.8	0.5	1.3
All Participants	5.1	6.0	0.9	2.3
Grade 8				
Public Schools	5.0	6.6	1.6	4.0
Parochial Schools	6.7	8.3	1.6	4.0
All Participants	5.5	7.1	1.6	4.0

Table 6E

Summary of Percentile and NCE Gains in Language Arts
on the California Achievement Tests
Language Mechanics

Group	Percentile			NCE		
	Pre	Post	Gain	Pre	Post	Gain
Grade 3						
Public Schools	19	38	19	31.5	43.6	12.1
Grade 4						
Public Schools	21	34	13	33.0	41.3	8.3
Parochial Schools	31	44	13	39.6	46.8	7.2
All Participants	21	34	13	33.0	41.3	8.3
Grade 5						
Public Schools	15	32	17	28.2	40.1	1.9
Parochial Schools	45	45	0	47.4	47.4	0.0
All Participants	17	32	15	29.9	40.1	10.2
Grade 6						
Public Schools	10	16	6	23.0	29.1	6.1
Parochial Schools	49	55	6	49.5	52.6	3.1
All Participants	10	18	8	23.0	30.7	7.7

Table 6E (Cont.)

Group	Percentile			NCE		
	Pre	Post	Gain	Pre	Post	Gain
Grade 7						
Public Schools	14	25	11	27.2	35.8	8.6
Parochial Schools	18	30	12	30.7	39.0	8.3
All Participants	15	26	11	28.2	36.5	8.3
Grade 8						
Public Schools	13	21	8	26.3	33.0	6.7
Parochial Schools	29	40	11	38.3	44.7	6.4
All Participants	17	26	9	29.9	36.5	6.6

Table 7E

Summary of Percentile and NCE Gains in Language Arts
on the California Achievement Tests
Language Usage and Structure

Group	Percentile			NCE		
	Pre	Post	Gain	Pre	Post	Gain
Grade 3						
Public Schools	26	37	11	36.5	43.0	6.5
Grade 4						
Public Schools	27	35	8	37.1	41.9	4.8
Parochial Schools	76	77	1	64.9	65.6	0.7
All Participants	33	35	2	40.7	41.9	1.2
Grade 5						
Public Schools	27	32	5	37.1	40.1	3.0
Parochial Schools	41	55	14	45.2	52.6	7.4
All Participants	27	32	5	37.1	40.1	3.0
Grade 6						
Public Schools	17	16	-1	29.9	29.1	-0.8
Parochial Schools	60	58	-2	55.3	54.2	-1.1
All Participants	22	21	-1	33.7	33.0	-0.7

Table 7E (Cont.)

Group	Percentile			NCE		
	Pre	Post	Gain	Pre	Post	Gain
Grade 7						
Public Schools	16	24	8	29.1	35.1	6.0
Parochial Schools	40	40	0	44.7	44.7	0.0
All Participants	21	29	8	33.0	38.3	5.3
Grade 8						
Public Schools	15	26	11	28.2	36.5	8.3
Parochial Schools	30	47	17	39.0	48.4	9.4
All Participants	19	36	17	31.5	42.5	11.0